TCOM Education Conclave

May 13-14, 2019

Hilton Hotel
815 Main Street
Fort Worth, TX
<table>
<thead>
<tr>
<th>Time</th>
<th>LEADERSHIP/FACULTY</th>
<th>RESIDENTS</th>
<th>COORDINATORS &amp; ADMINISTRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 – 9:30</td>
<td>TX OPTI GMEC &amp; BOARD OF TRUSTEES (by invitation, breakfast will be served)</td>
<td>8:30 – 9:30 Resident Poster set-up &amp; breakfast</td>
<td>8:30 – 11:30 Emotional Intelligence in the Work Place Dr. Susan Franks &amp; Dr. David Farmer</td>
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<tr>
<td>9:45 – 11:45</td>
<td>Judging of Resident Poster Presentations</td>
<td>9:45 – 11:45 Resident Oral Presentations of Posters</td>
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<tr>
<td>11:30</td>
<td>Conference Registration Opens / Poster Session 1</td>
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<tr>
<td>12:15</td>
<td>Lunch/Conclave Welcome – L. Nash, DO</td>
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<td>2:00 – 5:00 Focused Topic Sessions: • UME/GME Updates • Administrative Updates • Preceptor Development</td>
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<tr>
<td>12:30</td>
<td>TCOM Global Health Initiatives – J. Gibson, MD</td>
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<tr>
<td>1:00</td>
<td>International and Exchange Programs for Medical Students – S. Amornmahaphun, MD</td>
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<tr>
<td>1:30</td>
<td>Trends of Community and Family Medicine in Thailand: Curriculum to Innovation – J. Jiranukool, MD</td>
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<tr>
<td>2:00</td>
<td>Resident Poster Award Announcements /BREAK</td>
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<tr>
<td>2:15</td>
<td>Current State of Family Medicine in Russia – D. DeShan, MD &amp; D. Safina, MD</td>
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<td>3:00</td>
<td>Medical Missions in Russia – D. De’Shan, MD</td>
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<td>3:30</td>
<td>Research: Impairment of Psychoemotional Status and Disorders of Hemodynamics in Medical Professionals – D. Safina, MD</td>
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<td>4:00</td>
<td>BREAK</td>
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<tr>
<td>4:15</td>
<td>Introducing Palliative Care into Thai Medical Curriculum – WW Thippasert, MD &amp; S. Amornmahaphun, MD</td>
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<tr>
<td>4:45</td>
<td>Research: Helminthiasis in Thailand: Situation to Strategy Control – C. Nithikethkul, PhD</td>
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<td>5:15</td>
<td>Medical Missions Across the Globe – T. Shima, DO</td>
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<tr>
<td>5:45</td>
<td>Conference Reception &amp; Poster Session 1, cont.</td>
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</table>
| 6:30 | Opening Dinner & Podium Presentations by Resident Poster Award Winners
Moderators: L. Nash, DO and S. Manson, EdD
(15 min each: 10 to present, 5 Q&A) |                                             |                                             |
<table>
<thead>
<tr>
<th>Time</th>
<th>LEADERSHIP/FACULTY</th>
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<tr>
<td>8:00</td>
<td>Faculty &amp; Coordinator poster set up</td>
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<tr>
<td>8:15</td>
<td>Breakfast/Networking/Poster Session 2</td>
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<td>9:00</td>
<td>Dean’s Welcome – F. Filipetto, DO</td>
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<td>9:15</td>
<td>Opening Plenary – S. Shannon, DO</td>
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<tr>
<td>10:15</td>
<td>Break</td>
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<td>10:30</td>
<td>TCOM Curriculum Update – D. Mason, DO</td>
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<tr>
<td>11:00</td>
<td>Midland Primary Care Pathway Update – F. Filipetto, DO &amp; Panel Members*</td>
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<td>12:30</td>
<td>Lunch/Networking</td>
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<tr>
<td>12:45</td>
<td>TCOM 2019 Match Results – M. Landrum</td>
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<tr>
<td>1:30</td>
<td>TCOM Career Development Program Update – M. Landrum &amp; L. Goodpaster</td>
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<td>2:15</td>
<td>Poster Session 2, cont.</td>
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<tr>
<td>2:45</td>
<td>Developing Emotional Intelligence for Leadership, Teamwork &amp; Personal Well-being</td>
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<tr>
<td>3:30</td>
<td>TCOM GME &amp; AOGME Updates – L. Nash, DO</td>
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<tr>
<td>4:00</td>
<td>Next Steps &amp; Conference Evaluations – L. Nash, DO</td>
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<tr>
<td>4:30</td>
<td>Conference Adjourns – L. Nash, DO</td>
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*Panel Members: David DeShan, MD – PCPP Clerkship Director, Ann Smith, MDiv, MEd – PCPP Coordinator, Deborah Beck, PhD – Assistant Dean, Health Professions (UNT Denton), Margaret Wade EdD – Dean of Math & Sciences, Midland College, Micah Bigby – PCPP student*

**HOLD THAT DATE!**

TCOM Conclave 2020
May 18 – 19
Poster Session
RESIDENT PROCEDURE CURRICULUM: A flipped classroom approach
Lisa R. Nash, DO and Chris Rheams, MD

BACKGROUND/INTRO
- Flipped classroom is an instructional strategy and a type of content delivery where students are introduced to course content outside of the classroom, often online, outside of the class session. This model is conducive to teaching procedural skills.
- Objective: To describe the resident procedure curriculum in an internal medicine residency at UNT Health Science Center.

METHODS
- Setting: Internal Medicine Residency in a 140-bed, community hospital.
- Population: PGY 1 residents.
- Approach: The pre-course component of the flipped classroom approach included pre-reading, videos, and discussions.

RESULTS
- 16 PGY 1 residents participated.
- Average engagement: 230 max/resident.
- Average attempts per resident: 1.82.
- Average score: 98.91.
- Range: 58-100.

CONCLUSION
- Residents' performance:
  - High levels of engagement with the pre-course component of the flipped classroom approach were achieved.
  - Residents demonstrated a self-assessed level of mastery of procedural skills, with scores exceeding the pre-determined minimum acceptable standard.

OBJECTIVE
The study described resident engagement with the pre-course component of a flipped classroom approach to the required procedural curriculum in an internal medicine residency.

REFERENCES
IMPAIRMENT OF PSYCHOEMOTIONAL STATUS AND DISORDERS OF HEMODYNAMICS IN MEDICAL PROFESSIONALS

Roman Gorenikov, MD, Dr hab, professor, Sechenov University and Department of Family Medicine, MONIKI; Anzhurjan Vandui, MD, Head of Pediatrician Department of Moscow Pediatric Hospital No 9, Diana Satina, MD, medical researcher at MONIKI; Boris Agatonov, MD, Dr hab., Head of Department of Family Medicine, MONIKI; Mikhail Yakushin, MD, Dr hab., professor, MONIKI

Introduction

Monitoring, correction and prevention of psychosomatic disorders, including syndrome of psychosomatic burnout, affects the quality of professional activity of medical workers.

The aim of this research is investigation of correlation between the symptoms of general neurosis, anxiety, depression, psychosomatic burnout in medical workers and a number of hemodynamics indicators.

Methodology

41 primary healthcare doctors took part in the research (internists working in the outpatient clinics and pediatrics). Average length of work experience was 16.5 ± 1.7 years, and their middle age was 44.8 ± 3.3 years.

1. For psychosomatic status assessment we used several questionnaires:
   a) Neurosis indicator (NI) through the Symptomatic Questionnaire of Wellbeing (shows the level of stress-resistance and general neurosis);
   b) Anxiety indicator (AI) – through the Beck Anxiety Inventory (BAI);
   c) Depression indicator (DI) – Beck Depression Inventory (BDI);
   d) Psychosomatic burnout index (PEBI) – Maslach Burnout Inventory developed by American psychologists M. Maslach and J. Jackson, modified by N. Vodopyanova.

2. For systemic hemodynamics assessment we used portable automated hemodynamics analyzer "Globus" – a complex for non-invasive monitoring of central hemodynamics. Its work is based on the method of volumetric compressive oximetry. The received signals in the form of oscillogram go through analytical and mathematical processing, and by its results such important parameters of hemodynamics like systolic pressure, stroke volume, systemic vascular resistance determined.

3. Statistical confidence was evaluated based on the Student’s T-test.

Results

We classified the results of hemodynamics assessment into 3 groups:

- Group A1 – 15 people (31.5%) with normal indicators of hemodynamics;
- Group A2 – 20 people (44.6%) with circulatory impairment, that included increased and decreased levels of stroke volume, systemic vascular resistance with normal blood pressure levels;
- Group A3 – 12 people (25.6%) with diagnosed hypertension.

In the table below are the mean values of psychosomatic status indicators in the 3 groups:

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Group A1</th>
<th>Group A2</th>
<th>Group A3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurosis index</td>
<td>6.2±3.9</td>
<td>4.8±2.7</td>
<td>7.0±2.3</td>
</tr>
<tr>
<td>Depression index</td>
<td>5.4±2.1</td>
<td>8.6±2.1</td>
<td>14.7±3.1</td>
</tr>
<tr>
<td>Anxiety index</td>
<td>6.2±2.3</td>
<td>12.6±2.7</td>
<td>12.4±1.7</td>
</tr>
<tr>
<td>Psychosomatic burnout index</td>
<td>8.8±5.1</td>
<td>9.0±4.1</td>
<td>11.3±3.1</td>
</tr>
</tbody>
</table>

Differences between indicators in group A and other tables are p<0.05

As you can see from the table, there is a statistically significant level of DI, AI, NI in the groups II and III, compared to group I, where hemodynamics impairment was absent.

The most meaningful elevation of the indicators was observed in group III, where hypertension was present.

In the group III we found significant elevation of PEBI, compared to group I.

In the next table it is shown how the psychosomatic status depends on the length of medical work experience.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Length of work experience less than 5 years, n=20</th>
<th>Length of work experience 5-10 years, n=15</th>
<th>Length of work experience 10 years and more, n=6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurosis index</td>
<td>5.9±2.0</td>
<td>4.8±2.2</td>
<td>9.9±2.8</td>
</tr>
<tr>
<td>Depression index</td>
<td>6.2±2.4</td>
<td>6.2±2.4</td>
<td>10.5±2.8</td>
</tr>
<tr>
<td>Anxiety index</td>
<td>6.2±2.4</td>
<td>12.6±2.7</td>
<td>12.4±1.7</td>
</tr>
<tr>
<td>Psychosomatic burnout index</td>
<td>8.8±5.1</td>
<td>9.0±4.1</td>
<td>11.3±3.1</td>
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</tbody>
</table>

Differences between indicators in group I and II with p<0.05

Analysis of DI, AI, NI showed growth of these indicators with age less than 5 years and more than 10 years comparing to the group with length of work experience between 5 and 10 years. There were no significant differences in PEBI between the groups, even though there was tendency to its growth in the group with length of experience more than 10 years.

Discussion and Conclusions

1. Results of the investigation of systemic hemodynamics in primary care doctors showed 31.5% cases with normal indicators; 44.6% with impairment of systemic hemodynamics parameters without elevation of blood pressure, 25.6% were diagnosed with hypertension. Thus, investigation of systemic hemodynamics is an important method that can be used to reveal the hidden impairment of hemodynamics indicators even before developing hypertension.

2. In comparative analysis of hemodynamics indicators with the results of psychosomatic investigation, we found reliable elevation of neuroticism indicator, anxiety indicator, depression indicator and psychosomatic burnout indicator depending on the level of impairment hemodynamics indicators.

Largest deviations were found in the group with hypertension; less – in the group with circulatory impairment, and insignificant deviations in the group with normal indicators of hemodynamics. Thus, psychosomatic factor affects the condition of hemodynamics and may be the risk factor for hypertension.

3. Neurosis, depression and anxiety indicators were more increased in doctors with less work experience (less than 5 years, which may reveal developing stress in young specialists in the beginning of their career). Later these indicators decreased with length of work experience 5-10 years, which probably was related to the adaptation to the work environment. With length of work experience more than 10 years these indicators increased reliably, and it reveals the failure of coping mechanisms with the work environment.

4. Different stages of psychosomatic burnout syndrome developed in doctors. No reliable differences were found in the groups with different length of work experience, though there was a tendency to growth of this indicator with the growth of length of work experience.

By the results of our research we can conclude that psychosomatic burnout syndrome is more connected to personality features of people and requires personal evaluation in each case.
Conclave 2019 Resident Posters
(Alphabetical by first author)

1. Mathew Barker, DO;
   Additional Authors: Kendi Hensel, DO, PhD, FAAO; Rita M. Patterson, PhD; Evan Papa, PT, DPT, PhD – Idaho State University, Meridian Health Science Center

   **Effect of Osteopathic Manipulative Treatment (OMT) on Gait and Balance in Patients with Parkinson’s Disease**

2. Frederick O. Barnum IV, DO,
   Additional Authors: Mary Ellen Chang OMS-III, Rita M. Patterson PhD, Sajid Surve DO,

   **Effects of Practicing Osteopathic Manipulative Treatment on Hand Function**

3. Hema Bohra, DO,
   Additional Authors: Daniel Jipescu, DO

   **With Multiple Confounding Differentials, Could It Still be Adult Still Disease?**

4. Julianne Corcoran, DO
   Additional Authors: Michael Green, MD

   **Case Report: A Rare Case of Perforated Duodenal Ulcer after Roux-en-Y Gastric Bypass**

5. Robert Dillard, DO
   Additional Authors: Ada, Beyer, DO, Elizabeth Kim, MD, Albert Yurvati, DO

   **Rectal perforation injury with intra-abdominal involvement following height pressure water penetrating trauma from a water craft.**

6. Chelsea Harper, DO
   Additional Authors: Shelby Tipton, Alexandria Goyer, Stephen Weis, DO

   **Severe Esophageal Involvement in Cicatricial Pemphigoid**

7. Austin Henke, DO
   Additional Authors: Lisa Nash, DO

   **Treatments to Improve Functionality of Parkinson’s Disease: Case Study.**

8. Gerardo Mederos, MD
   Additional Authors: Akhil Gade, MD, Hema Bohra, MD

   **Diagnose and treat: confu caculation, nystagmus and ataxia**
9. Gerardo Mederos, MD
Additional Authors: Arvindselvan Mohanaselvan, MD, Menalee Hapuarachchi, MD

In the blood but not in the heart - a curious case of Lead Endocarditis with culture negative vegetations but positive blood culture

10. Aman Patel, DO
Additional Authors: Daniel Jipescu, Som Aftabizadeh, Anand Subramanian, Doug Johnson, Mark Chou,

Posterior STEMI: The solar eclipse of EKG”. How to uncode and not miss it.

11. Aman Patel, DO
Additional Authors: Ahsan Khan, Daniel Jipescu, Som Aftabizadeh, Anand Subramanian, Doug Johnson,

Anticoagulation Compliance Rate in Atrial fibrillation (AF) at Medical City of Fort Worth (ACCOR-AF)

12. Aman Patel, DO
Additional Authors: Ahsan Khan, Daniel Jipescu, Som Aftabizadeh, Anand Subramanian, Doug Johnson,

IMPA - BLED Incidence of bleeding in patients on Impella (a type of non-pulsatile LVAD) and the role of a short course of proton pump inhibitor (PPI) in preventing a bleed. (IMPA-BLED STUDY)

13. Aman Patel, DO
Additional Authors: Ahsan Khan, Daniel Jipescu, Som Aftabizadeh, Anand Subramanian, Doug Johnson

Impact of left atrial appendage (LAA) morphology on Outcomes of WATCHMAN device implantation (LMOW study)

14. Aman Patel, DO
Ahsan Khan, Daniel Jipescu, Som Aftabizadeh, Anand Subramanian, Doug Johnson, Dr. Nachiket Apte, Additional Authors: Dr. Lance Longmore, Dr. Michael Pierpoline

Safety and Efficacy Analysis of Balloon Cryoablation vs Radiofrequency Ablation in Atrial Fibrillation: A Retrospective Analysis. (SECARA AFib TRIAL)
15. Jon Payne, MD
Additional Authors: David Yang, MD

Does Increased Concussion Knowledge Change Student Athlete Behavior?

16. Dalton Ryba, DPM
Additional Authors: Jordan Ernst, DPM; Travis Motley, DPM, MS

Follow-Up Evaluation of Medical Clear Space Following Fibular Open Reduction Internal Fixation Without Primary Deltoid Repair in Bimalleolar Equivalent Fractures

17. Michael Sansait, DO
Additional Authors: Dr. Saji Pillai, Dr. Lisa Nash, Dr. Chris Rheams

The Case of Interoperability and an Achy Young Lady

18. Megan Scott, MD

Making an Advocate: Can GME Curricula on advocacy shape views and future practice goals?

19. Miral Vaghasia, DO
Additional Authors: Malinda Hansen DO, MS; Kimberly Fulda DrPH; Kendi Hensel DO, PhD, FAAO

Effect of Palpatory Neuromodulation of the Trigeminal Nerve for Tenderness in the Posterior Neck Musculature

20. Ashley Vaughan, DO
Additional Authors: Jay Patel, DO

Appendico-ileal fistula in a patient with Crohn’s disease: a case report
Effect of Osteopathic Manipulative Treatment (OMT) on Gait and Balance in Patients with Parkinson’s Disease

First Author & Institutional Program: Matthew Barker, DO - UNT Health Science Center and Medical City Fort Worth

Additional Authors & Affiliations:
Kendi Hensel, DO, PhD, FAAO – UNT Health Science Center, Evan Papa, PT, DPT, PhD – Idaho State University, Meridian Health Science Center, Rita M. Patterson, PhD – UNT Health Science Center

BACKGROUND/INTRODUCTION:
Parkinson Disease (PD) is the second most common neurodegenerative disease. Symptoms include tremor, rigidity, bradykinesia and postural instability. Falls are 3-9 times more likely for people with PD than healthy older adults.

Osteopathic Manipulative Treatment (OMT) could potentially improve gait and balance in people with PD. Previously, OMT has shown to improve postural control in healthy older subjects and had a positive effect on gait kinematics in people with PD. We hypothesize that OMT will improve the Timed Up and Go (TUG) and Functional Reach (FR) scores for people with PD.

METHODOLOGY:
This study is a randomized controlled trial. Individuals with PD (N = 39) and age matched healthy participants (Control = C) (N=20) underwent baseline and post-treatment assessments of TUG and FR. Subjects were randomly assigned to one of three OMT protocol groups: neck down, whole body (with cranial), and sham.

RESULTS:
Results showed a significant difference between the PD and C participants’ initial TUG (PD = 8.89, C = 6.16) and FR scores (PD = 20.38 cm, C = 29.65). Also, a significant improvement in the pre-treatment vs post-treatment FR scores for all participants (change in FR for PD = 2.55 cm and for C was 1.47 cm). No significant changes were found between any of the treatment groups or between the pre and post-treatment TUG scores.

CONCLUSION/DISCUSSION:
As expected, participants with PD had a slower TUG and could reach a shorter distance in the FR test compared to control subjects. The significant improvement in functional reach post-treatment, could indicate a learning curve as there was no significant differences between treatment groups. The results do not support our hypothesis as there was no statistical significance between any of the treatment groups for the outcomes measured. Participant fatigue could have been a significant factor for the results obtained as all testing was completed in the same day. It is also possible that the effect of an OMT session may not be fully achieved immediately after the treatment was received. More significant results may have been found if the re-assessment was done at a follow up appointment instead of the same day. Other limitations of the current study include: a relatively small sample size, nearly half of the PD participants did not have an age matched control, and we included only one single treatment session vs. multiple treatment sessions. This trial is still in data collection, so this only represents a subset of the data that will be collected.

REFERENCES:
Effect of Osteopathic Manipulative Treatment on Gait and Balance in Patients With Parkinson’s Disease

Matthew Barker, DO, Kendal Hensel, DO, PhD, FAAO, Even Papa, PT, DPT, PhD, Rita M. Patterson, PhD

Department of Osteopathic Neuro-musculoskeletal Medicine - Medical City Fort Worth, TX 76122
Department of Osteopathic Manipulative Medicine - UNT Health Science Center in Fort Worth, TX 76122

Background

Parkinson’s Disease (PD):
- Several mid-cranial neurodegenerative diseases
-Pathophysiologically characterized by a loss of dopamine in the basal ganglia resulting in the condition tremor, rigidity, and bradykinesia.
- Commonly seen in elderly populations and patients with advanced age.

Gait in Parkinson’s:
- Poor gait in PD may be due to both foot and hip–leg musculature dysfunction.
- Parkinsonian gait manifests as a slow, shuffling gait with a reduced walking velocity.
- Parkinsonian gait is associated with increased gait variability, reduced step length, and lower speed.

Conclusion

- Reduced step length and velocity.
- Reduced step length and velocity.
- Reduced step length and velocity.

Experimental Design and Methods

- Study design: Randomized controlled trial
- Inclusion criteria:
  - PD patients with moderate to severe gait impairment
- Randomization:
  - Allocation to OMT or control group
  - Blinding:
    - Both patients and clinicians were blinded to group assignments.

Graphs:

- Functional Reach Test
- TUG Test (Time Up and Go)
- Change in TUG Pre vs. Post Treatment
- Change in Functional Reach Pre vs. Post Treatment

Acknowledgements

This study was supported by UNT Health Science Center and the Parkinson’s Disease Foundation. The authors would like to acknowledge the support of the Parkinson’s Disease Foundation and the generosity of the Parkinson’s Disease patients who participated in this study.

References

EFFECTS OF PRACTICING OSTEOPATHIC MANIPULATIVE TREATMENT ON HAND FUNCTION

First Author: Frederick O. Barnum IV DO
Institutional Program: Department of Osteopathic Neuromusculoskeletal Medicine- Medical City Fort Worth in Fort Worth, TX 76107
Additional Authors & Affiliations: Mary Ellen Chang OMS-III, Rita M. Patterson PhD, Sajid Surve DO- Department of Osteopathic Manipulative Medicine- UNT Health Science Center in Fort Worth, TX 76107

BACKGROUND/INTRODUCTION: Practitioners who use osteopathic manipulative treatment (OMT) rely on their hands to diagnose and treat patients. While the general population’s hand functionality declines with age, OMT practitioners seem to maintain hand strength and function as they age. Although majority of studies involving OMT examine its effects on patients, there is scarce research on how its practice affects practitioners. The purpose of this cross-sectional pilot study was to assess OMT practitioners’ hand functionality by measuring grip strength and comparing it to published gender- and age-matched normative data. We hypothesized that OMT practitioners’ grip strengths are maintained/improved versus non-OMT-practitioners of the same gender and age despite increasing age.

METHODOLOGY: 264 OMT practitioners at the American Academy of Osteopathy (AAO) Convocation (90 subjects in 2017 & 164 in 2018) provided self-reported demographic data via Qualtrics, such as age, gender, height, weight, BMI, number of total years of OMT practice, and OMT utilization in hours per average week. Then, their intrinsic and extrinsic grip strength was measured with a pinch gauge and Jamar dynamometer, respectively.

RESULTS: OMT practitioners’ grip strength decline was calculated at -1.9 pounds over 5 years (lb/5y) for males and -1.0 lb/5y for females. Their decline rate was less than published normative data (males -4.2 lb/5y, females -2.4 lb/5y).

CONCLUSION/DISCUSSION: The grip strength results suggest that practitioners who use OMT slow the rate of decline of their hand function as they age rather than experience the more rapid decline seen in the general population. The data for pinch strength was inconclusive and excluded from this pilot study. This pilot study may suggest that practicing OMT may have a more significant effect on extrinsic muscle strength than intrinsic muscle strength in terms of preserving hand function. The results serve as the first database of grip strength normative data not just for OMT practitioners, but physicians overall.

One notable limitation is the demographic differences between this study’s population and the normative data (3317 subjects, 12 studies, 5 countries). In the next phase of data collection, we plan to investigate participants’ hand usage outside of OMT practice, what types of OMT they are utilizing, if practitioners have ever injured their hands while performing OMT, and if they have previously completed the study. Because we did not ask about previous participation, the pilot study was finalized in 2018. Future research will include a follow-up question in the survey that allows for continuously tracking previous participants in order to reduce recall bias.

EFFECTS OF PRACTICING OSTEOPATHIC MANIPULATIVE TREATMENT ON HAND FUNCTION

Frederick O. Barnum IV DO,1 Mary Ellen Chang OMS-III,2 Rita M. Patterson PhD,2 Sajid Surve DO2
1Department of Osteopathic Neuromusculoskeletal Medicine, Medical City Fort Worth in Fort Worth, TX 76107
2Department of Osteopathic Manipulative Medicine, UNT Health Science Center in Fort Worth, TX 76107

INTRODUCTION

Practitioners who use osteopathic manipulative treatment (OMT) rely on their hands to diagnose and treat patients. While the general population's hand function declines with age,1-4 OMT practitioners seem to maintain hand strength and function as they age. Due to the nature of medical practice, hand function decline could be detrimental to the longevity of practitioners' careers and ultimately their livelihood. Reduced hand function, as demonstrated through grip strength testing, has been used as a quantitative predictor of all-cause and cause-specific mortality, including cardiovascular and respiratory diseases, cancer, and stroke in middle-aged and elderly persons.1,2,4 While age and grip strength have also been shown to predict hand dexterity in adults, studies show that skilled finger movement training can improve or maintain an aging population's hand functionality.1

OBJECTIVES

We hypothesized that OMT practitioners' grip strength are maintained/improved versus non-OMT practitioners of the same gender and age despite increasing age.

There is some research on how OMT affects practitioners. The purpose of this cross-sectional pilot study was to assess OMT practitioners' hand function by measuring grip and isometric grip strength via a pinch gauge and jammer dynamometer, respectively, and comparing it to published gender- and age-matched normative data.1-6 In doing so, we aim to demonstrate the potential physician benefits of performing OMT.

METHODS

264 OMT practitioners enrolled in this ongoing study over two years (99 and 174 OMT practitioners at the American Academy of Osteopathy's AAO's 2017 and 2018 Conventions, respectively).

1. The subject self-reported demographic data via Qualtrics including age, gender, height, weight, BMI, dominant hand, previous injury to hands, duration of practicing OMT, and the average number of hours of OMT per week in past 6 months from the self-reported age of 60 or older.

2. The investigator measured the subject's intrinsic grip strength with a mechanical pinch gauge (Fig. 2A). The pinch gauge was held by the investigator in front of the subject, who was allowed to perform one practice trial on the device with each hand. With the elbow flexed to 90° at his or her side, the subject was asked to provide three consecutive maximum voluntary pinch (MVP) with the right hand in a three-jaw chuck hand position (position C). The pinch was then repeated for the left hand.

RESULTS

Figure 1: Female OMT practitioners measured hand grip strength shown in blue compared to normative data, shown in orange.

CONCLUSION

OMT practitioners grip strength is calculated at 10 pounds over 5-year-olds for both males and females. Their decline rate was less than published normative data for males 2.4 lb/yr (1.8 kg/yr) and females 4.2 lb/yr (2.4 kg/yr), as shown in Figures 3 and 4. The grip strength results suggested that practitioners who use OMT show the rate of decline of their hand function as they age rather than experience the normal decline seen in the general population. The rate for grip strength was significant and not included here. This study may support that practicing OMT may have a more significant effect on intrinsic muscle strength than intrinsic muscle strength in terms of preserving hand function. The results are compared with the first database of grip strength normative data not just for OMT practitioners, but physicians overall. One notable limitation is the demographic differences between this study's population and the normative data in 2013 subjects, 12 studies. A summary of the next phase of data collection, we plan to investigate participants hand usage outside of OMT practice. What types of OMT they are utilizing. It is possible practitioners have not injured their hands while performing OMT, and if they have previously completed the study. Because we did not ask about previous participation, the pilot study was only utilized in 2018. Future research will include a follow-up question in the survey that asks for continued usage of previous participants in order to reduce bias.

ACKNOWLEDGEMENTS

Research approved by North Texas Regional Institutional Review Board under #ID 2017-043. Endless appreciation to all of our contributing AAO/BODY organization, and other student research assistants from both 2017 & 2018 who made data collection possible. Thank you to Zhengyang Zhou, PhD, for your contribution with the power analysis.

REFERENCES

[Provide references here]
Title: With Multiple Confounding Differentials, Could It Still be Adult Still Disease?

First Authors: Hema Bohra, DO
Co-authors: Daniel Jipescu, DO
Attending: Dr. Machaiah Madhrira, Dr. Dana Ciobanu

Background/Introduction
Adult Still’s Disease (ASD) is a diagnosis of exclusion and therefore can mimic a wide array of differentials. The combination of joint pain, daily spiking high fevers, evanescent rash, and arthritis in addition to leukocytosis and transaminitis can often suggest this condition. Moreover, there are no specific diagnostic tests for ASD, so practitioners need to be aware of the 1992 classification criteria proposed by Yamaguchi et al.

Case Report:
A 43-year-old female recently discharged for almost identical presentation of subjective low grade fever, myalgias, arthralgias and rash is readmitted. Prior discharge occurred after a negative and afebrile sepsis workup in addition to having cardiology rule out acute coronary syndrome as the cause for her for chest pain. Since being home, patient reported continuing symptoms, increasing joint pain, worsening rash with a centripetal distribution and current onset high fever. Furthermore, patient developed a sore throat with dysphagia. Infectious disease started broad spectrum antibiotics with doxycycline for atypical coverage concomitant with IV acyclovir for antiviral coverage. Lumbar puncture resulted an unremarkable CSF sample. Rheumatologic serum markers were negative. In spite of receiving these empiric therapies, symptoms and daily high fevers continued. Hematology performed bone marrow biopsy and Indium scan, which were also negative. Finally, patient was started on steroids and subsequently achieved defervescence for 36 hours along with improving her dysphagia and decreasing her rash. Patient was discharged home and will follow up with rheumatology, ID and cardiology in outpatient setting.

Discussion:
The Yamaguchi criteria is the most widely accepted classification for ASD with four major criteria: a 39ºC fever lasting at least one week, two weeks of arthralgias or arthritis, a salmon-colored macular or maculopapular skin rash and leukocytosis. The minor criteria include sore throat, lymphadenopathy, hepatomegaly or splenomegaly, transaminitis and negative ANA and rheumatoid factor labs.

References


Introduction

Adult Still's Disease (ASD) is a diagnosis of exclusion and therefore can mimic a wide array of differentials. The combination of joint pain, daily spiking high fevers, evanescent rash, and arthritis in addition to leukocytosis and transaminases can often suggest this condition. Moreover, there are no specific diagnostic tests for ASD, so practitioners need to be aware of the 1992 classification criteria proposed by Yamaguchi et al.

Case Presentation

43-year-old female recently discharged for almost identical presentation of subjective low grade fever, myalgias, arthritis and rash.

In spite of receiving these empiric therapies, daily high fevers and symptoms:
- Increasing joint pain
- Worsening rash with a centripetal distribution
- Current mental high fever
- Bone trend with dysphagia

Cardiology ruled out acute coronary syndrome as the cause for her chest pain.

Infectious disease started broad spectrum antibiotics with doxycycline for atypical coverage concomitant with IV acyclovir for antiviral coverage. Lumbar puncture resulted in an unremarkable CSF sample.

Hematology performed bone marrow biopsy and Indium scan, which were also negative.

The patient was discharged on steroids and subsequently achieved defervescence for 36 hours along with improving dysphagia and decreasing her rash. Patient was discharged home and will follow up with rheumatology, ID, and cardiology in outpatient setting.

Discussion

Yamaguchi's criteria

<table>
<thead>
<tr>
<th>Major criteria</th>
<th>Minor criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orthopnea &gt; 3 weeks</td>
<td>Sore throat</td>
</tr>
<tr>
<td>Fever &gt; 39°C intermittent, &gt; 1 week</td>
<td>Lymphocytosis and/or</td>
</tr>
<tr>
<td>Pancytopenia</td>
<td>Eosinophilia</td>
</tr>
<tr>
<td>Lymph nodes &gt; 1 cm</td>
<td>Negative rheumatoid factor and</td>
</tr>
<tr>
<td>Anemia</td>
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</table>

Yamaguchi's criteria

<table>
<thead>
<tr>
<th>Adult Still’s Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sore throat</td>
</tr>
<tr>
<td>Blast crisis</td>
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<tr>
<td>Arthritis</td>
</tr>
</tbody>
</table>

Conclusion

The Yamasuchi criteria is the most widely accepted classification for ASD with four major criteria: a 39°C fever lasting at least one week, two weeks of arthralgia or arthritis, a salmon-colored macular or maculopapular skin rash and leukocytosis. The minor criteria include sore throat, lymphadenopathy, hepatomegaly or splenomegaly, transaminases and negative ANA and rheumatoid factor labs.

References


https://www.periodicfevers.com/abnormalcd4count/
Case Report: A Rare Case of Perforated Duodenal Ulcer after Roux-en-Y Gastric Bypass

First Author: Dr. Julianne Corcoran, DO, PGY1
Institutional Program: Medical City Fort Worth

Additional Authors & Affiliations: Dr. Michael Green, MD

BACKGROUND/INTRODUCTION: Morbid obesity is a significant health issue affecting over 15.5 million people in the United States with surgical treatment modalities remaining the gold standard. Roux-en-Y gastric bypass is one of the most performed treatments for morbid obesity resulting in improved cardiovascular outcomes, weight loss, and diabetes remission. However, it is associated with its own complications including nutritional deficiencies, infection, and bleeding. A rare complication is perforation of a duodenal ulcer, with less than 40 cases being reported so far.

A 68 year old female with medical history of morbid obesity (BMI 54), COPD, OSA, HTN, GERD presented eight days after elective laparoscopic RNY gastric bypass and cholecystectomy with increasing abdominal pain, nausea, vomiting, and erythema around incision site. She was tachycardic on presentation with labs revealing mild leukocytosis, elevated lactic acid and procalcitonin. CT abdomen with PO contrast revealed mild ascites with small droplet of free air in upper abdomen. She was started on broad spectrum antibiotics and started on IV fluid hydration. A few hours after admission, her abdominal pain increased and was associated with new peritoneal signs. She became hypotensive, not responsive to IV fluids and was taken emergently to the operating room. Intra-operative findings included a duodenal perforation with bile spillage walled off by omentum around the liver. A diagnostic laparoscopy with primary repair of duodenal perforation with graham patch repair and JP drain placement was performed. She was transferred to the ICU post-operatively, broad-spectrum antibiotics continued, protonix drip initiated, and eventually weaned off vasopressors. Her remaining post-operative course was unremarkable and patient was discharged to a skilled nursing facility on POD#10.

METHODOLOGY: N/A

RESULTS: Intra-operative findings included a D1 perforation with bile spillage walled off by omentum around the liver. The gastric bypass anastomoses were unremarkable.

CONCLUSION/DISCUSSION: Perforated duodenal ulcers are a rare condition that without surgical intervention causes significant morbidity and possible mortality. Peptic ulcer disease has an incidence of 1.5 to 3% with prevalence of perforation in these patients at about 5%. Mortality ranges from 1.3 to 20%. Marginal ulceration is more common, occurring at about 7%. Duodenal ulceration is rare and difficult to diagnose secondary to RNY gastric bypass anatomy, making endoscopic evaluation difficult. This patient’s pre-operative EGD showed a normal duodenum without ulceration, indicating her complication was likely unrelated to the LRNY procedure itself. Duodenal perforation after LRNY bypass is a rare, but significant complication for which proton pump inhibitors can decrease perforation incidence. Diagnostic laparoscopy remains to be standard of treatment due to reduced complication rates and shorter length of hospital stay.

REFERENCES:


Case Report: A Rare Case of Perforated Duodenal Ulcer after Roux-en-Y Gastric Bypass

Dr. Julianne Corcoran, D.O., PGY-1; Dr. Michael Green, M.D.
Department of Surgery, Medical City Forth Worth, Ft Worth, TX

Abstract
Perforated duodenal ulcer is a rare complication after laparoscopic Roux-en-Y gastric bypass, with only a few case reports found in the literature.

This is a case report of a 68 year old female presenting one week after elective laparoscopic RNY gastric bypass and cholecystectomy with abdominal pain, nausea, and vomiting.

She then developed peritoneal signs during her admission and was taken emergently to the OR. Intraoperative findings included a duodenal perforation with bile spillage. A diagnostic laparoscopy with graham patch repair of duodenal perforation was performed.

Introduction
- Mortal obesity affects over 15.5 million people in the United States.
- Roux-en-Y gastric bypass is one of the most performed surgical treatments for morbid obesity.
- Common complications include nutritional deficiencies, infection, and bleeding.
- Perforation of a duodenal ulcer is a rare complication, with less than 40 cases reported in literature.

Case
A 68 year old female with BMI of morbid obesity (BMI 54), COPD, OSA, HTN, and GERD presented 8 days after elective RNY bypass and cholecystectomy with increasing abdominal pain, nausea, and vomiting.

She had tachycardia on presentation with labs revealing mild leukocytosis, elevated lactic acid, and elevated procalcitonin. She was started on Zosyn and Vancomycin with IV fluids.

CT abdomen/pelvis with PO contrast:
- Mild ascites with small droplet of free air in upper abdomen.

A few hours after admission, she developed worsening abdominal pain with new peritoneal signs associated with fever, tachycardia, and hypotension, not responsive to IV fluids.

Diagnostic Laparoscopy:
- D1 perforation with bile spillage noted off by omentum around the liver. The gastric bypass anastomoses were unremarkable.
- Primary repair of duodenal perforation with graham patch repair and JP drain placement was performed.

She was transferred to the ICU post-operatively. Antibiotics were continued, proton pump started, and successfully weaned off vasoressors.

Remaining post-op course unremarkable. She was discharged to a skilled nursing facility on POD#10.

Discussion
This case illustrates a unique presentation of perforated duodenal ulcer that is rare, but possible, complication from Roux-en-Y gastric bypass. Without surgical intervention, this complication can cause significant morbidity and possible mortality.

Pepitic ulcer disease has an incidence of 1.5 to 3%. Prevalence of perforation is 5% in these patients. Mortality can range from 1% to 30%. Marginal ulceration is more common, occurring about 7%.

Duodenal ulceration is rare and difficult to diagnose secondary to RNY bypass anatomy, making endoscopic evaluation difficult.

The patient’s preoperative EGD showed normal duodenum without ulceration, indicating her complication was unlikely related to the procedure itself.

Conclusions
- Gastric bypass will continue to be the gold standard for treatment of morbid obesity.
- Duodenal perforation after laparoscopic RNY gastric bypass is a rare, but significant complication that should be suspected in patients presenting with an acute abdomen.
- Proton pump inhibitors can decrease the incidence of duodenal perforation.
- Diagnostic laparoscopy remains the standard of treatment due to reduced complication rates and shorter length of hospital stay.

References


Acknowledgements
Dept. of Surgery, Medical City Fort Worth
Rectal perforation injury with intra-abdominal involvement following high pressure water penetrating trauma from a water craft

First Author: Robert Dillard, DO PGY4
Institutional Program: UNTHSC/HCA North Texas Division
Additional Authors & Affiliations: Adam Beyer, DO PGY2, Elizabeth Kim, MD

BACKGROUND/INTRODUCTION:
Injuries to the rectum and perineal regions secondary to jet-ski and watercraft vessels are uncommon and unique, presenting a potentially complicated clinical scenario. While this injury pattern has been described before, severity, intervention and hospital course has varied among cases. Additional descriptions of these trauma types may be necessary to establish a standardized approach to the treatment of such injuries.

CASE INFORMATION:
The patient is a 16-year-old female with history of asthma who sustained after falling off a jet-ski. CT imaging prior to transfer was suggestive of peri-rectal air and fluid with inflammation extending through the retroperitoneum (Fig 1). On presentation to our institution, the patient was peritonitic and septic with malodorous dark rectal discharge mixed with blood.

Given the above findings, the patient was taken to the operating room and placed in the lithotomy position with a pelvic exam performed. Visualization of the rectum was difficult secondary to a large amount of dark, watery anal discharge but a large posterior rectal defect was appreciated on examination, about 6 cm from the anal verge. The surgical team proceeded to perform a diagnostic laparoscopy which was converted to an exploratory laparotomy after confirmation of intra-abdominal extension of contaminated water. The presacral space was found to be dissected with underlying exposure of the sacrum and rupture of the retroperitoneum near the bifurcation of the aorta. The rectum also demonstrated a tear. Surgical intervention involved stapling and transection of the rectosigmoid junction leaving ~15cm rectal stump and providing colonic diversion, rectal serosal repair, abdominal washout, drain placement within the presacral space exiting the right lower abdominal quadrant, and temporary abdominal closure. She remained intubated and was admitted to the trauma intensive care unit. Planned takeback occurred 24 hours later with proctoscopy. The rectal defect was found to involve approximately 50% of the posterior circumference, estimated to be a Grade 3 injury. The celiotomy was reopened and explored, no residual fluid collections were noted, all observed bowel was viable. An end sigmoid colostomy was created and a drain placed with the abdominal fascia closed and skin left open. Postoperative care included empiric broad spectrum antibiotic coverage for freshwater organisms with initial regimen including This antibiotic combination was continued from the time of admission until 24 hours as intraop cultures were negative. Patient required IR drainage on postoperative day fifteen and rectal drainage on day nineteen for persistent presacral fluid collections on repeat imaging. Antibiotic coverage was continued until the patient’s discharge.

DISCUSSION/CONCLUSIONS:
The above case presents several points of interest. Rectal injuries and perforations from high pressure water exposure is an uncommonly reported incident and the management less defined. The initial approach to such an injury requires early recognition of sepsis. Close examination of the entire perineal region should be performed, including both the genital and anal areas. Proctoscopy is beneficial in identifying the proximity and circumference extent of the rectal injury. Frequently, watery discharge is present and impedes visualization of the injury. Intra-abdominal involvement is present in approximately 10% of cases. When extension is likely, laparoscopy/laparotomy is indicated. Damage control laparotomy with multiple takebacks are avoided unless the burden of contamination warrants further washouts.

In the case above, open exposure of the presacral region showed a large dead space created by the pressure injury, denoting a difficult area to control surgically and subsequently abscesses occurred. While presacral drainage is not formally recommended, we attempted this given the large cavity left from the injury. An end diverting colostomy was created. Diverting loop colostomies are advocated when the rectal stump tissue is viable for primary re-anastomosis. After adequate drainage and diversion, the rectal injury is allowed to heal without direct repair of the defect. Empiric antibiotic coverage should be initiated to include specimens both present within the gastrointestinal tract and water source. Broad empiric antibiotic coverage may be started with piperacillin-tazobactam. Alternatively, a third or fourth generation cephalosporin or fluoroquinolone is appropriate for gram-negative coverage in addition to Vancomycin or clindamycin for gram-positive organisms. Metronidazole should be added for anaerobic coverage. Antibiotics can then be tailored once cultures have speciated.

REFERENCES:
R. Dillard, DO, A. Beyer, DO, E. Kim, MD
Department of Surgery, UNT/HCA North Texas Division

Introduction

Injuries to the rectum and perineal region secondary to violent and abrupt external forces are uncommon but unique, presenting a potentially complicated clinical scenario. While the injury pattern has been described before, severity, intervention, and hospital course have varied among sources. Additional description of these fracture types may not necessarily lead to a standardized approach to the treatment of such injuries.

Case Information

The patient is a 34-year-old male with a past medical history of obesity that was treated with endoscopic medical therapy. The patient sustained a traumatic injury after falling off a flatbed truck, impacting the right lateral aspect of his abdomen. He was initially found by an individual, who administered CPR and was transported to the hospital. He was found to be hypotensive upon arrival and was taken to the operating room for exploratory laparotomy. A laparotomy revealed an abdominal incision with a peritoneal tear and a rectal perforation. The patient underwent a left hemicolectomy, a repairing of the rectal perforation, and a closure of the abdominal incision.

Table 1. List of common rectal perforation injuries and surgical approach

<table>
<thead>
<tr>
<th>Injury Type</th>
<th>Surgical Approach</th>
</tr>
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<tbody>
<tr>
<td>Contusion</td>
<td>Conservative</td>
</tr>
<tr>
<td>Perforation</td>
<td>Surgical repair</td>
</tr>
<tr>
<td>Perforation</td>
<td>Primary repair</td>
</tr>
<tr>
<td>Perforation</td>
<td>Definitive repair</td>
</tr>
<tr>
<td>Traction</td>
<td>Primary repair</td>
</tr>
<tr>
<td>Traction</td>
<td>Definitive repair</td>
</tr>
<tr>
<td>Traction</td>
<td>Augmented repair</td>
</tr>
</tbody>
</table>

Discussion

The diagnosis and treatment of rectal perforation injuries vary significantly, depending on the extent of the injury and the patient's overall condition. Conservative management is generally indicated for small perforations without associated complications. Surgery is indicated for larger perforations, severe inflammation, or associated complications, such as abscess formation or sepsis. The decision to perform surgery should be based on a thorough evaluation of the patient's condition and the extent of the perforation.

References

Severe Esophageal Involvement in Cicatricial Pemphigoid

First Author: Dr. Chelsea Harper D.O.
Institutional Program: University of North Texas Health Science Center, Texas College of Osteopathic Medicine
Additional Authors & Affiliations: Dr. Stephen Weis D.O., Shelby Tipton, Alexandria Goyer

BACKGROUND/INTRODUCTION:
Cicatricial Pemphigoid (CP) is a rare vesiculobullos, autoimmune disease with subsequent scar formation1. Esophageal and anogenital involvement is estimated to occur in approximately 4% of the cases2. Esophageal involvement is reported to be a prognosticator for an aggressive course and typically develops in the setting of widespread disease. Due to the rarity of CP, few trials have evaluated interventions to halt the potentially debilitating scarring sequelae.

METHODOLOGY:
Case report

RESULTS:
A case report of CP with severe oral, nasal, esophageal, genital and anal involvement with incomplete response to multiple modalities. He had a delay in diagnosis likely due to the rarity of the disease. Once diagnosed, he rapidly progressed from painful dysphagia to stricture. His severe oral involvement led to malnutrition, which was further exacerbated by esophageal strictures and was ultimately fatal.

CONCLUSION/DISCUSSION:
This case is useful to raise awareness of this condition. The outcome can also raise awareness of the need for early, aggressive treatment and monitoring for debilitating sequelae of cicatricial pemphigoid.

REFERENCES:
Severe Esophageal Involvement in Cicatricial Pemphigoid

Dr. Chelsea Harper D.O., Shelby Tipton B.S., Alexandria Goyer B.S./B.A.
PI: Dr. Stephen Weis D.O.

**INTRODUCTION**
- Cicatricial Pemphigoid (CP): is a rare, scarring, vesiculobullous, autoimmune disease.
- Presenting symptoms: typically present with painful shallow erosions & ulcers from fragile vesicles & bullae of varying size.
- Oral mucosa is often the most involved region (90%) with the pharynx, larynx, and esophagus being the least involved (10%).
- Esophageal & antral involvement ~4% of the cases.
- Esophageal involvement: indicator of aggressive course.
- Few case reports of CP present as isolated esophageal disease.
- Hallmark of the disease: lesions at any anatomical site to heal with scar formation.
- Loss of function, most commonly blindness, is a consequence of the disease.
- This is a major cause of morbidity & mortality.
- Initial evidence on interventions to limit scarring. No trials on prevention of esophageal strictures.

**PATIENT**
- 59-year-old Caucasian male.
- Multiple dermatologic issues of 12 months duration.
- 40-pound weight loss from painful oral ulcers. [Figure 1.]
- Referred by general care for back ulcer that had not responded to standard care.
- Had been evaluated by multiple medical specialties.

**CASE PRESENTATION**
- **On exam:**
  - A 3cm friable, bleeding, tender ulcerated plaque on his lower back (Figure 2 below).
  - 5cm friable ulcerated plaque on his right forearm, several lcn oral erosions, 1cm ulcer on scalp, fusion penis to scrotum secondary to an active, fibrotic lesion (Figure 3 below) with anal erosions, bleeding from both sides.

**Initial Treatment**
- Liquid prednisone 20mg QD, triamcinolone 0.1% dental paste, betamethasone dipropionate 0.05%.

**Pathology**
- Multiple biopsies sent for direct immunofluorescence along with indirect immunofluorescence with salt split skin results.
- Pathology report showed CP, IgA variant.

**Course**
- Hospitalized because of weakness & falls, received a PEG tube.
- Initial dapsone 150mg QD, prednisone 20mg QD & triamcinolone 1% ointment were added.
- 1 month resolution of oral ulcers + Mycophenolate 2500mg added.
- 3 months oral mucosa & skin ulcerations persisted.
- Peroral & oral caudal intramuscular injection of 1cc 20mg Q20 triamcinolone, Clobetasol 0.05% ointment BID.
- Budesonide and dapsone increased to BID.
- Mild improvement with continued dapsone & globus sensation.
- GI: Severe esophageal strictures. GI recommended against dilation due to risk of perforation. He elected for hysteresis.
- 6 months: Passed away due to the complications.

**DISCUSSION**
- Case reports indicate that esophageal involvement is typically asymptomatic, however there are cases with asymptomatic, yet severe, involvement. This could potentially lead to under-diagnosis and inadquate treatment.

**CURRENT RECOMMENDATIONS**

<table>
<thead>
<tr>
<th>Risk Level</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low:</td>
<td>Lesion resistant to oral mucosa &amp; skin.</td>
</tr>
<tr>
<td>High:</td>
<td>Oral antacid, orogastric, protective esophageal feeding.</td>
</tr>
<tr>
<td>Mild:</td>
<td>Tissue biopsy (erosions &amp; skin).</td>
</tr>
<tr>
<td>Severe:</td>
<td>Systemic treatment (corticosteroids, dapsone, mycophenolate).</td>
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</tbody>
</table>

- Our gentleman presented with a several months history of undiagnosed CP with severe & extensive oral, nasopharyngeal, antral & skin involvement with subsequent fibrosis.
- Involvement of his esophagus wasn't diagnosed until late in his course.
- His course was fatal secondary to complications of malnutrition & severe esophageal strictures.
- This case is useful to raise awareness of this condition & the need for early, aggressive treatment & monitoring for debilitating sequelae of CP.

**REFERENCES**

Osteopathic Manipulative Treatments to Improve Functionality of Parkinson’s Disease: Case Study

First Author: Dr. Austin Henke
Institutional Program: Medical City Weatherford

Additional Authors: Lisa R. Nash, DO,MS-HPEd, FAAFP

BACKGROUND/INTRODUCTION: Parkinson’s is a progressive neurodegenerative disease, second most common neurodegenerative disease. The disease is described by typical symptoms of tremors, bradykinesia, rigidity and postural instability. Standard of care is generally pharmacologic treatment. The most effective drug for Parkinson’s is Levodopa, as it manages the bradykinesias, tremors and rigidity. Most therapies are targeted to motor planning, improving cognition, and gait/stability control. Muscles become rigid with increased tone, exaggerating by pain, spasms and facial restrictions. Applying OMT to the joints and key muscles of posture and walking, could improve the severity of tone/rigidity, allowing for increase usage of muscles, resulting in improvement in Quality of Life and Activities of Daily Living.

CASE SUMMARY: The patient is an 80-year-old male presenting seeking to improve function after being diagnosed with Parkinson’s disease. The patient initially presented with mild Parkinsonian symptoms-minimal shuffled gait and worsened balance. Cogwheel rigidity noted in bilateral upper extremity described as mild. The main change in strength was decreased hamstring strength in October 2018. Musculoskeletal findings showed restricted muscle tones in bilateral shoulders of flexion, external rotation and adduction; bilateral hamstring hypertonicity, and inverted plantar flexed feet. OMT included percussion therapy and manual manipulation as well as cranial manipulation. Articulatory, muscle energy, and counterstain techniques were applied regularly to shoulders, neck, back and hips. The patient reports upon walking after OMT treatments that he has improved range of motion and gait; walking out with smooth gait and walking poles only cautionary used.

DISCUSSION: While Parkinson’s disease is a progressive neuromuscular disease, quality of life can continue to remain stable with adjunct therapies such as OMT and exercise. This case demonstrates that improved movement, postural stability, and confidence can occur after addressing range of motion, which can lead to improved quality of life. With rigidity, muscles can become restricted, contracted, with exaggerated pain and spasms. OMT specifically target these muscle fibers by attempting to reset the muscle spindle reflex. With improved hamstrings stretch, hip flexors, and decreased flexion bias of the torso, this patient was able to stand with better posture and improved fluidity. This patient highlights adjunct therapies could help to continue QoL and the OMT treatment of rigidity and postural stability affected muscles can contribute to function.

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Tarsey, Daniel MD Pharmacologic treatment of Parkinson disease Howard L Hurtig Uptodate Waltam, MA
Osteopathic Manipulative Treatments to Improve Functionality of Parkinson’s Disease: Case Study

Austin Henke DO, Lisa R Nash DO MS, HPEd FAAFP | HCA

Introduction

- Parkinson's is a progressive neurodegenerative disease.
- 2nd most common neurodegenerative disease.
- Prevalence 1-3 in 1000.
- Symptoms: bradykinesia, tremors, rigidity.
- Standard of care is Pharmacologic:
  - Sinemet (levodopa/carbidopa), bromocriptine, ropinirole, pramipexole
  - Target motor planning, improving cognition, a gastrointestinal series
- The prospective studies aiming to quantify improvement with OMT.
- Applying OMT to joints & key postures & walking mechanics.
- Improve the severity of bradykinesia.
- Increase range of motion.
- Improvement in spasticity of the LAMAs.

Case Report

Demographics: 62 year-old Caucasian Male Presenting to UNTSC OMT Clinic over the course of one year.
Past Medical History: Parkinson's Disease (2011), Abdominal Hernia, Benign Prostate Hypertrophy, Depression, Hypertension.

Presenting:
- Mild to moderate Parkinsonian Symptoms: minimal shuffling gait, worsened balance.
- Restlessness sets to stand.
- Hypoactive.
- Negative, resting tremor.

Neuro/Blake Complaints:
- Cogwheel rigidity noted in bilateral upper extremity.
- Change in strength was decreased hamstring strength in October 2016.
- Neurological/Osteopathic findings: restricted muscle tone in DL shoulders of flexion, external rotation & adduction, bilateral hamstring hypotonia.

Physical Exam

- 1st Month: severity — moderate, most notable symptom gait disturbance.
- 2nd Month: severity — mild with pain only complaint.
- 3rd Month: began walking workouts 3 weeks. Increased pain of his upper back, does well with balance — requiring walking stick occasionally.
- 4th Month: complaint of numbness & weakness of upper extremities & some similar complaints of lower extremities.

Therapeutic Focus

Therapy was focused on alleviating pain, improving range of motion & tightness of major joints with OMT. OMT included percussion therapy & manual manipulation as well as cranial manipulation. Articular, muscle energy, & counterstrain techniques performed by a board certified PM&R osteopathic physician were applied regularly to shoulders, neck, back & hip. The patient was encouraged to continue exercises during treatment the patient added Parkinson's exercise classes to his dancing classes with increased functionality in both activities. The patient states he 'needs a tune up every month' or so with OMT to continue to function while continuing to follow with Neurologist & due to symptom worsening was increased dose of Levodopa/Carbodopa as reported prior.

Discussion

While Parkinson's disease is a progressive neurovascular disease, quality of life can continue to remain stable with adjusted therapies such as OMT & exercise.

Case Outcome from OMT Treatment

- Improved Movement
- Physical Stability
- Confidence with range of motion & Improved Quality of Life

OMT Treatment in Parkinson's Patients

- Relaxes tense muscles that keep them tight, thus limiting ability to stretch.
- Produces a more fluid free shuffling gait without assistance.

- Mediates Improvement in the range of motion & improved quality of life.

- Improvements in decreased tremor, decreased颤动 & improved mobility.

- Pain reduction.

- Relay release of motor symptoms.

- Improved quality of life.

Hodkinson & Yale Scale Shifts

Initial (Stage 2.5) Stage 3 Back to 2.5 after treatment

The higher the stage indicates greater degree of disability. The attempt is to quantify disability regardless of therapies or pharmacological treatments. Further studies applying objective measures of ADL/QOL would be beneficial such as MDS-APGERS & SPES tests.

References/Acknowledgement


- The HCA-OMT program and students involved in the interdisciplinary team permission obtained to publish this case. As of this time and without follow up with the patient unable to be adequately completed.

- The testimonials are real, but the identity of individuals have been protected to uphold their confidentiality based on subjective values of their consent.

HCA | Graduate Medical Education
Diagnose and treat: confabulation, nystagmus and ataxia

First Author: Gerardo Mederos MD
Institutional Program: Medical City Fort Worth Internal Medicine Additional Authors & Affiliations: Akhil Gade MD, Hema Bohra MD

BACKGROUND/INTRODUCTION:
A 57 year old educated female with a history of 20 years of alcohol abuse that was brought in by EMS after being found unresponsive at home. The patient presented with the classic triad of Wernicke's Encephalopathy: encephalopathy, oculomotor dysfunction, and gait ataxia. Despite adequate treatment with thiamine (vitamin B1), the patient's symptoms did not improve. The purpose of this report is to review the pathophysiology of thiamine deficiency, symptoms and the importance of starting treatment to prevent lasting sequelae.

CASE:
A 57 year old caucasian female with a past medical history of chronic alcohol abuse that was brought to the hospital after being found unconscious in her apartment. Patient has struggled with alcohol abuse for 20+ years. One week before admission, the patient’s daughter became concerned about the patient’s confused state. Several bottles of wine and medications were found throughout the home. On admission, patient was altered and lethargic. Vitals were stable. Chemistry panel was significant for hyponatremia (122), creatinine 1.8. On physical exam, patient had lateral nystagmus, gait ataxia, lower extremity weakness, and unsteady posture and gait. MRI showed hypodensisites in the periventricular area and mamillary bodies. Patient was started on thiamine 500 mg qD IV for 3 days followed by 250 mg qD IV for 5 days. Throughout her hospitalization, the patient’s orientation to place, person, and time would wax and wane and her gait ataxia didn’t improve. After treatment was finished, patient was transferred to rehabilitation center.

CONCLUSION/DISCUSSION:
Wernicke's encephalopathy is a neurological disorder that commonly affects the brain in chronic alcohol abusers. Since its link to thiamine deficiency in the 20th century there has been a growing effort for early diagnosis and treatment to prevent its long term effects. Thiamine is a cofactor that plays a crucial role in energy metabolism. In alcoholics, depletion of thiamine leads to a cellular energy deficit, focal acidosis, regional increase in glutamate, and ultimately cell death. Poor dietary intake in alcoholics results in a malnourished state which further decreases thiamine levels by impairing thiamine transport across the intestinal gut blood-brain barrier axis. The combination of poor nutrition, impaired thiamine gut absorption, and accelerated cerebellar metabolism of thiamine leads to neurodegeneration. Thiamine supplementation via intravenous infusion has been the go to therapy for patient's suffering from WE. Although there is no consensus on the dosing and frequency, immediate initiation of thiamine is recommended if there is a high suspicion of WE. Unfortunately in this patient, her unknown down time and delayed transfer to the hospital inhibited the prompt start of thiamine and resulted in long term consequences.

REFERENCES:
Diagnose and Treat: Confabulation, Nystagmus and Ataxia
Residents: Gerardo Mederos, Akhil Gade, Hema Bohra, Daniel Jipescu
Attendings: Dr. Madhira Machiaiah

Abstract
We present the case of a 57 year old highly educated female with a history of 20 years of alcohol abuse that was brought in by EMS after being found unresponsive at home. The patient presented with the classic triad of Wernicke's Encephalopathy, encephalopathy, oculomotor dysfunction, and gait ataxia. Despite adequate treatment with thiamine (vitamin B1), the patient's symptoms did not improve. Here we will discuss the pathophysiology of thiamine deficiency and the symptoms of nystagmus, confabulation, and ataxia and the importance of starting treatment to prevent lasting sequela.

Case Report
Patient is a 57 year old caucasian female with a past medical history of chronic alcohol abuse that was brought to the hospital after being found down in her apartment. Patient has struggled with alcohol abuse for 20+ years and has been in and out of rehab on several occasions. One week before admission, the patient's daughter became concerned about the patient's confused state.

Several bottles of wine and medications were found throughout the home. On admission, patient was altered and lethargic. Vitals were stable. Chemistry panel was significant for hyponatremia 122 and creatinine 1.8. On physical exam, patient had nystagmus, lower extremity weakness, and unsteady posture and gait. MRI showed hypodensities in the periventricular area and mamillary bodies. Patient was started on thiamine 500 mg qd IV for 3 days followed by 250 mg qd IV for 5 days. Throughout her hospitalization, the patient's orientation to place, person, and time would wax and wane and her gait and posture instability did not improve. Patient also had severe confabulation. After treatment was finished, patient was transferred to a nursing home.

Discussion/Conclusion
Thiamine transport across the intestinal gut blood-brain barrier axis. The combination of poor nutrition, impaired thiamine gut absorption, and accelerated cerebellar metabolism of thiamine leads to neurodegeneration.

Thiamine supplementation via intravenous infusion has been the go to therapy for patients suffering from WE. Although there is no consensus on the dosing, frequency, route and duration, immediate initiation of thiamine is recommended if there is a high suspicion of WE. Due to high metabolism of thiamine with glucose intake, it is recommended to administer thiamine before any glucose is given. Unfortunately in this patient, her unknown down time delayed immediate thiamine supplementation and resulted in long term consequences.

References


In the blood but not in the heart - a curious case of Lead Endocarditis with culture negative vegetations but positive blood cultures

First Author: Gerardo Mederos MD
Institutional Program: Medical City Fort Worth Internal Medicine
Additional Authors & Affiliations: Arvindselvan Mohanaselvan MD, Menalee Hapuarachchi MD

INTRODUCTION:
Cardiac Implantable Electronic Device (CIED) endocarditis is a rare disease that is commonly caused by Staph aureus. Almost in all cases, an organism is isolated from the blood and vegetations grow the common organisms. This is a rare case of lead endocarditis with Enterococcus faecalis found in the blood but no organisms were isolated from the culture of atrial, ventricular leads and the device pocket. This report will review the increased risk of lead infection in IV drug users, microbiology and treatment options.

CASE REPORT:
A 66 year old homeless male with a past medical history of systolic heart failure with ICD implanted over ten years ago, chronic methamphetamine use and stool incontinence presented with a syncopal episode. Vitals revealed normal temperature, heart rate of 110 bpm, blood pressure of 91/67 mmHg and saturating 95% on 4L nasal cannula. Labs revealed leukocytosis of 23.8 k/mm^3, lactic acid of 6.87 mmol/L and procalcitonin of 1.88 ng/ml. On examination, patient had a 3/6 systolic ejection murmur. Blood cultures were positive for Enterococcus faecalis. Patient was started on ampicillin and gentamicin. TTE revealed possible vegetations. TEE revealed large multiple highly mobile masses attached to right ventricular ICD lead during its right atrial course. Patient underwent laser ICD device removal and subsequent new device placement. As surgical cultures were negative, gentamicin was discontinued and continued with IV ampicillin alone for a total of 4 weeks.

DISCUSSION:
It is well documented that IV drug use is a major risk factor for right heart endocarditis. By using drugs via an IV route, the user can directly introduce microorganisms located in the skin, the drug itself, and syringe into the bloodstream. With the rise in the number of pacemakers and ICDs being implanted, there has also been an increase in the incidence of CIED infections. CIED infections are commonly divided into pocket or systemic infections, with most pocket infections occurring within months of device implantation. Systemic infections are usually associated with other risk factors, in this case IVDU. Up to 89% of cases are caused by Staphylococcus aureus and Staphylococcus coagulase negative with 4% caused by Enterobacteriaceae. In this particular patient, the combination of stool incontinence, being homeless without proper footwear and hygiene, and having numerous open wounds in his feet could have led an organism usually found in the GI tract to find its way to the right side of the heart. In cases of lead endocarditis where TEE shows lead vegetations and positive blood cultures with high grade bacteremia, the general management consists of antibiotics, removal of pulse generator and leads, and reimplantation of a new device.

REFERENCES:

In the Blood but not in the Heart- A Curious Case of Lead Endocarditis with Culture Negative Vegetations but Positive Blood Cultures

Residents: Gerardo Mederos MD, Menalee Hapurachchi MD, Arvindselvan Mohanaselvan MD
Attendings: Madhira Machiaiah MD; Laskhmi Sambathkumar MD

Abstract
Cardiac Implantable Electronic Device (CIED) Endocarditis is a rare disease that is commonly caused by Staphylococcus aureus, Staphylococcus epidermidis, and Enterococcus faecalis. In almost all cases, an organism is isolated from the blood and vegetations grow the common organisms. Here we have a rare case of lead endocarditis with Enterococcus faecalis found in the blood but no organisms were isolated from the culture of atrial appendage and the device pocket. We will discuss the increased risk of lead infection in IV drug users, microbiology and treatment options.

Case Report
A 66 year old homeless caucasian male with a PMH of ICD implanted over ten years ago, IVDU and steel incontinence presented with a syncope episode. Labs on admission showed leukocytosis. TEE showed a highly mobile mass in the RA and a vegetation on the leads. Patient was started on Amoxicillin and Ceftriaxone. On exam, patient had a 3/6 systolic ejection murmur. Blood cultures were positive for Enterococcus faecalis. TEE revealed large multiple highly mobile masses attached to right ventricular ICD lead during its right atrial course. Patient underwent laser ICD device removal and subsequent new device placement. As operative cultures were negative, gentamicin was discontinued and treated with IV ampicillin alone.

Discussion
It is well documented that IV drug use is a major risk factor for right heart endocarditis. By using drugs via an IV route, the user can directly introduce microorganisms located in the skin, the drug itself, and syringes into the bloodstream. With the rise in the number of pacemakers and ICDs being implanted, there has also been an increase in the incidence of CIED infections. CIED infections are commonly divided into pocket or systemic infections, with most pocket infections occurring within months of device implantation. Systemic infections are usually associated with other risk factors, in this case IVDU. Up to 89% of cases are caused by Staphylococcus aureus and Staphylococcus epidermidis. In this case, 4% was caused by Enterococcus faecalis.

Discussion/Conclusion
In this particular patient, the combination of steel incontinence, being homeless without proper footwear and hygiene, and having numerous open wounds in his feet could have led an organism usually found in the GI tract to find its way to the right side of the heart. In cases of lead endocarditis where TEE shows lead vegetations and positive blood cultures with high-grade bacteremia, the general management consists of antibiotics, removal of pulse generator and leads, and reimplantation of a new device.

References
BACKGROUND/INTRODUCTION:

The clinical presentation of posterior myocardial infarction (PMI) is not always easy, not even for the cardiologist. True posterior myocardial infarction is difficult to recognise because the leads of the standard 12-lead electrocardiogram are not a direct representation of the area involved. Only with indirect changes in the precordial leads as such the diagnosis can be suspected. It is suggested to be one of the most commonly missed types of acute myocardial infarction (MI) electrocardiographic patterns.

Case Description

A 47-years-old caucasian former 22 pack per year smoker with no significant PMHx presented with complaint of upper back pain radiating to both shoulders that started during a business meeting. He went home had some beers and rested. He slept and woke up at 11:30PM with severe pain in b/w shoulders: sharp, 10/10, constant with no aggravating or alleviating factors. The pain progressed to involve his both arms and chest and he got worried, therefore, decided to go to the ED where EKG changes and troponin elevation were noted. He reported nausea, palpitations. Denied SOB, diaphoresis, fever, cough, chills, physical exertion, trauma. His father had an MI at 53 yo.

EKG was noted with: ST/T depression in inferolateral leads with loss of T wave balance in V1 and R wave in V2 taller than V3. Troponin elevation to 2.25. The patient was taken emergently to cardiac cath and he was noted to have: patent Left main artery, patent left anterior descending artery, mild disease in the mid right coronary artery, and 100% occlusion of the Left Circumflex coronary artery. A drug eluting stent was placed.

Discussion

True isolated posterior STEMI is rare and comprises of 3% of total STEMI and missed frequently in ER as well as in patient setting. Posterior STEMI associated with inferior or lateral MI is very common and comprises of 20% of the STEMI cases and usually not missed due to STEMI changes in inferior or lateral leads. Missed STEMI leads to increased cardiac morbidity and mortality and thus for clinicians it is very important to read each and every EKG for the patients presenting with suspected coronary disease. Our patient had back pain and first clinical impression was aortic dissection that was ruled out with CXR and urgent TTE. With back pain, elevated troponins and Tall R wave in lead V2 in the absence of any other causes of elevated troponin, posterior STEMI was suspected leading to emergent LHC that was suggestive of total occlusion of circumflex artery that was stented with a drug eluting stent with good flow was noted after that (TIMI 3 flow). Patient did well and was discharged home on same day with maximal medical therapy.

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“Posterior STEMI- The solar eclipse of EKG”.
Decoding Mantra- “If you don’t think it, you won’t see it”
Aman Patel, Mark Chou, Daniel Jipescu, Som Aftabizadeh, Junaid Iqbal, Akhil Gade, Muhammad Tola,
Douglas Johnson, Anand Subramanian, Satish Chandraprakasam, Senthil Thambidurai

Introduction
The clinical presentation of posterior myocardial infarction (PMI) is not always easy, not even for the cardiologist. True posterior myocardial infarction is difficult to recognize because the leads of the standard 12-lead electrocardiogram are not a direct representation of the area involved. Only with indirect changes in the precordial leads as such the diagnosis can be suspected. It is suggested to be one of the most commonly missed types of acute myocardial infarction (MI) electrocardiographic patterns.

Case presentation
EKG was noted with: ST/T depression in inferolateral leads with loss of T wave balance in V1 and R wave in V2 taller than V3. Troponin elevation to 2.25. The patient was taken emergently to cardiac cath and he was noted to have: patent Left main artery, patent left anterior descending artery, mild disease in the mid right coronary artery, and 100% occlusion of the Left Circumflex coronary artery. A drug eluting stent was placed.

EKG prior to intervention
Cardiac catheterization - Right Anterior Oblique view:
- A - Left coronary artery (CAGA) angiography
- B - SB button inflation
- C - Left circumflex artery (SAP) stenting
- D - LCA angiography SAP stenting

Conclusion
True isolated posterior STEMI is rare and comprises of 3% of total STEMI and missed frequently in ER as well as in patient setting. Posterior STEMI associated with inferior or lateral MI is very common and comprises of 20% of the STEMI cases and usually not missed due to STEMI changes in inferior or lateral leads. Missed STEMI leads to increased cardiac morbidity and mortality and thus for clinicians it is very important to read each and every EKG for the patients presenting with suspected coronary disease. Our patient had back pain and first clinical impression was aortic dissection that was ruled out with CXR and urgent TTE. With back pain, elevated troponins and tall R wave in lead V2, in the absence of any other causes of elevated troponin, posterior STEMI was suspected leading to emergent LHC that was suggestive of total occlusion of circumflex artery that was stented with a drug eluting stent with good flow was noted after that (TIMI 3 flow). Patient did well and was discharged home on same day with maximal medical therapy.

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- "Acute inferior wall myocardial infarction due to obstruction of the\nWazee Left Anterior Descending Coronary Artery" Thakur et al.,
Hackerman Sunil Roy, Jatro S. Samir, Nazanin Rezaei, and Arup Shastry
- "Cardiac anatomy explored" R. H. Anderson, Reza Razzaghi, and Andrew M. Taylor
Anticoagulation Compliance Rate in Atrial fibrillation (AF) at Medical City of Fort Worth (ACCOR-AF)

First Author: AMAN PATEL
Institutional Program: MEDICAL CITY FORT WORTH

Additional Authors & Affiliations: Ahsan Khan, Daniel Jipescu, Som Aftabizadeh, Anand Subramanian, Doug Johnson,

BACKGROUND/INTRODUCTION:
According to the study published in 2002 by Thomas et. al in clinical journal of cardiology, the rate of anticoagulation in AF has remained disappointingly low (≤50%). Another robust study done by Isla M. Ogilvie et. al. and co. in 2009, a systematic review of literature from 1997-2008 identified 98 studies and out of it, the majority of studies have compliance rates below 60%.

METHODOLOGY:
A retrospective chart review, quality improvement, observational study comparing the percentage of patients with atrial fibrillation or atrial flutter on anticoagulation at discharge in June-July 2017 and January-February 2018 with the national average pre and post intervention. Inclusion criteria: Patients admitted to HCA North Texas Hospitals with a primary or secondary diagnosis of atrial fibrillation noted in the chart. Exclusion criteria: Patients <18 years old. Patients with acute stroke. Patients with contraindication to anticoagulation, patient with lone atrial fibrillation (CHA2DS2 VASC score 0), patients who refused anticoagulation.

RESULTS:
After the data analysis for June-July 2017 it was noted that only 69% of the patient were discharged on anticoagulation. The data was presented during the hospital Cardiology Conference in October 2017. National compliance was determined to be very broad depending of the study although was noted to be 19%-81%. Our hospital Cardiology Committee recommended Cardiology specialist consultation for patients with atrial fibrillation or atrial flutter. At the analysis of the data from January - February 2018 it was determined that the compliance was 86.20%. Improved and above the national average.

CONCLUSION/DISCUSSION:
The analysis of the compliance data showed that there was an opportunity for improvement. After recommending the specialist consultation for atrial fibrillation or atrial flutter the data showed an increase in compliance with guidelines of anticoagulation. Medical City Fort Worth is a Certified Comprehensive Stroke Center. Here we were able to observe first hand the long term effect of thrombotic strokes. Coordinating patient care together with primary team and specialists will save lives.

REFERENCES:
Funda Tiryaki; Edith A. Nutescu; Joel A. Hennenfent; Annette M. Karageanes; Larry J. Koesterer; Bruce L. Lambert; Glen T. Schumock, Am J Health Syst Pharm. 2011;68(13):1239-1244.
Anticoagulation Compliance Rate in Atrial Fibrillation (AFIB)

ACCOR-AFIB

Daniel Jipescu, Aman Patel, Ahsan Khan, Som Aftabizadeh,
Anand Subramanian, Doug Johnson, Senthil Thambidorai, Balamuthusami Saravanan

Introduction

According to the study published in 2002 by Thomas et. al in Clinical Journal of Cardiology, the rate of anticoagulation in AFIB remained disappointingly low (≤50%).[1] Another robust meta-analysis done by Isla M. Ogilvie et. al. in 2009 (a systematic review of literature from 1997-2008) identified 98 studies. The majority of them demonstrated compliance rates below 60%.[2]

Materials/Methods

A retrospective chart review, quality improvement, observational study comparing the percentage of patients with AFIB or atrial flutter (AF) on anticoagulation at discharge in June-July 2017, January-February 2018 with the national average. Inclusion and exclusion criteria were very strictly defined. Data was analyzed for June and July 2017 and it was presented to the Cardiology Quality Improvement Committee. The Committee recommended Cardiology specialist consultation with nurse coordinator for patients admitted with AFIB or AF. The post intervention analysis showed the compliance improvement now at 86.20%, which is well above national average.

Results

- Compliance rate over time in AFIB patients
- Percentage of compliance improvement after protocol implementation

Conclusion

The analysis of the compliance data showed that there was an opportunity for improvement. After the committee recommendation for Cardiology specialist consultation for AFIB or AF the data demonstrated a clear increase in compliance at 86.20%, which is higher than the national average. Medical City Fort Worth is a Certified Comprehensive Stroke Center. Coordinating the patient care together with primary team and specialists would augment in improving the morbidity and mortality related to ischemic CVA in patients with AFIB and AF.

References

IMPAA -BLEED Incidence of bleeding in patients on Impella (a type of non-pulsatile LVAD) and the role of a short course of proton pump inhibitor (PPI) in preventing a bleed. (IMPAA-BLED STUDY)

First Author: AMAN PATEL
Institutional Program: MEDICAL CITY FORT WORTH

Additional Authors & Affiliations:

BACKGROUND/INTRODUCTION:
According to the study published in 2002 by Thomas et al in clinical journal of cardiology, the rate of anticoagulation in AF has remained disappointingly low (≤50%). Another robust study done by Isla M. Ogilvie et al. and co. in 2009, a systematic review of literature from 1997-2008 identified 98 studies and out of it, the majority of studies have compliance rates below 60%.

METHODOLOGY:
A retrospective chart review, quality improvement, observational study comparing the percentage of patients with atrial fibrillation or atrial flutter on anticoagulation at discharge in June-July 2017 and January-February 2018 with the national average pre and post intervention. Inclusion criteria: Patients admitted to HCA North Texas Hospitals with a primary or secondary diagnosis of atrial fibrillation noted in the chart. Exclusion criteria: Patients <18 years old. Patients with acute stroke. Patients with contraindication to anticoagulation, patient with lone atrial fibrillation (CHA2DS2 VASc score 0), patients who refused anticoagulation.

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CONCLUSION/DISCUSSION:
The analysis of the compliance data showed that there was an opportunity for improvement. After recommending the specialist consultation for atrial fibrillation or atrial flutter the data showed an increase in compliance with guidelines of anticoagulation. Medical City Fort Worth is a Certified Comprehensive Stroke Center. Here we were able to observe first hand the long term effect of thrombotic strokes. Coordinating patient care together with primary team and specialists will save lives.

REFERENCES:
Funda Tiryaki; Edith A. Nutescu; Joel A. Hennenfent; Annette M. Karageanes; Larry J. Koesterer; Bruce L. Lambert; Glen T. Schumock, Am J Health Syst Pharm. 2011;68(13):1239-1244.
IMPA-BLED incidence of bleeding in patients on Impella (a type of non-pulsatile LVAD) and the role of a short course of proton pump inhibitor (PPI) in preventing a bleed. (IMPA-BLED STUDY)

Aman Patel, Ahsan Khan, Daniel Jipe escu, Som Aftabizadeh, Menalee Hapuarachchi, Akhil Gade
Anand Subramanian, Doug Johnson, Senthil Thambidorai, Satish Chandraprakaram

Introduction

Impella, a type of internal left ventricular assist device (LVAD) is increasingly being used as a bridge to transplant in end stage heart disease but comes with a risk of GI bleed as implantation requires anticoagulation. Recent multivariate analysis by Li F et al. 2017 reported that incidence of GIB was 0.11% among almost a million patients but in patients with LVAD, the incidence was as high as 35% and it varies between 18-40% in other studies.

Methodology

A retrospective study using chart review from January 2016 to August 2018 identifying patients on Impella with GI bleeding, intracranial bleeding or other types of significant bleeding requiring discontinuation of anticoagulation, compared the incidence of GI bleed in patient who have Impella and are on PPI vs. not on PPI. It is our hypothesis that a short course of prophylactic PPI may reduce the risk of bleeding in patients with Impella. Included in the study were all patients with Impella placed in the last 5 years and at least 18 yo. Patients with history of bleeding were excluded.

Results

After thorough analysis it was noted that 13/24 (52.02%) out of 53 patients suffered with bleeding. 3 (5.66%) patients needed intraprocedural transfusion. 6/11 (54.55%) patients had bleeding the day after implantation and 4/7 (57.14%) patients had bleeding at more than 1 day. 5/38 (13.16%) out of 13 patients were placed on PPI. 16/40 (40%) out of 40 patients without bleeding were on PPI.

Conclusion

As it was noted in other publications the predilection for bleeding in a state of reduced pulsatility created by continuous-flow LVADs has not been completely elucidated but may be related to systemic and local factors including formation of arteriovenous malformations, acquired von Willebrand disorder, and mucosal ischemia. Although Impella implantation saves lives it is important to monitor conscientiously for possible bleeding diathesis. A larger sample size study is required to be able to increase the power of the study for better accuracy.

References

Impact of left atrial appendage (LAA) morphology on Outcomes of WATCHMAN device implantation (LMOW study)

First Author: AMAN PATEL
Institutional Program: MEDICAL CITY FORT WORTH

Additional Authors & Affiliations: Ahsan Khan, Daniel Jipescu, Som Aftabizadeh, Anand Subramanian, Doug Johnson

BACKGROUND/INTRODUCTION:
Left atrial appendage occlusion (LAAO) with a WATCHMAN device is approved to be used in atrial fibrillation (AF) patients who are not good candidates for long term oral anticoagulation therapy (OAT) as an alternative stroke prevention strategy. Over the years, a number of different trials have addressed the various aspects of LAAO procedure, but there is still not enough literature on the impact of LAA anatomy on procedural outcomes of WATCHMAN device implantation. Besides shape, the location and orientation of LAA is a significant determinant of the complexity and success of the procedure. Chicken wing morphology has well been described as a particularly challenging anatomy from an interventional standpoint. We would like to assess the impact of the LAA morphology, as per a prior accepted classification (Chicken Wing, Cauliflower, Wind Sock or others), on the intraprocedural outcomes including procedure success, duration, compression ratio, number of devices used and major complications in the periprocedural period.

METHODOLOGY:
A single center observational study from individual institutional registries attempting to assess the impact of LAA anatomy on outcomes after WATCHMAN device implantation. Procedural outcomes, as mentioned above, will be compared between patients with and without chicken wing LAA anatomy.

RESULTS:
A number of 77 patients were found in our registry between September 2015 and April 2018, out of which 31(40%) had Windsock, 31(40%) had Cauliflower and 15(19%) had Chicken wing morphology. All of them had 100% successful implantation. The mean duration was noted to be 74.8 minutes with 1.065 number of attempts (NOA) for the patients with Cauliflower, 72.3 min with 1.294 NOA for the Chicken Wing and 70.3 minutes with 1.182 NOA for the Windsock.

CONCLUSION/DISCUSSION:
After a thorough analysis of 77 patients it was noted that the patients with Cauliflower morphology had the longest duration of the procedures but had the least number of attempts. The patients with Chicken wing morphology had the highest number of attempts and the patients with Windsock had the lowest duration of implantation.

REFERENCES:
Impact of left atrial appendage (LAA) morphology on Outcomes of WATCHMAN device implantation (LMOW study)

Aman Patel, Ahsan Khan, Karan Gupta, Aaron Timins, Douglas Johnson, Kimberley Wilson, Daniel Jipescu, Som Afzalizadeh, Senthil Thambidorai, Sanjeev Nair

Introduction

Left atrial appendage occlusion (LAAO) with a WATCHMAN device is approved to be used in atrial fibrillation (AF) patients who are not good candidates for long term oral anticoagulation therapy (OAT) as an alternative stroke prevention strategy. Over the years, a number of different trials have addressed the various aspects of LAAO procedure, but there is still not enough literature on the impact of LAA anatomy on procedural outcomes of WATCHMAN device implantation. Besides shape, the location and orientation of LAA is a significant determinant of the complexity and success of the procedure. Chicken wing morphology has well been described as a particularly challenging anatomy from an interventional standpoint. We would like to assess the impact of the LAA morphology, as per a prior accepted classification (Chicken Wing, Cauliflower, Wind Sock or others), on the intraprocedural outcomes including procedure success, duration, compression ratio, number of devices used and major complications in the periprocedural period.

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Conclusion

After a thorough analysis of 77 patients it was noted that the patients with Cauliflower morphology had the longest duration of the procedures but had the least number of attempts. The patients with Chicken wing morphology had the highest number of attempts and the patients with Windsock had the lowest duration of implantation. Although the patients with the Cauliflower morphology took the longest time to be implanted having the lowest number of attempts might decrease the risk of complications. We recommend a more extensive analysis with a larger sample of patients to be able to find a significant correlation.

References

Safety and Efficacy Analysis of Balloon Cryoablation vs Radiofrequency Ablation in Atrial Fibrillation: A Retrospective Analysis. (SECARA AFib TRIAL)

First Author: AMAN PATEL
Institutional Program: MEDICAL CITY FORT WORTH
Additional Authors & Affiliations: Ahsan Khan, Daniel Jipescu, Som Aftabizadeh, Anand Subramanian, Doug Johnson, Dr. Nachiket Apte, Dr. Lance Longmore, Dr. Michael Pierpoline

BACKGROUND/INTRODUCTION:
According to the ACC/AHA/HRS guidelines, Pulmonary-Vein Isolation has become the cornerstone approach in ablation for patients with medication refractory paroxysmal atrial fibrillation. (Class 1). Radiofrequency ablation is the most frequently employed technology followed by balloon cryoablation. According to multiple, smaller studies in recent past, both procedures have similar efficacy in terms of recurrence with little difference in complication rate. The FreezeAF trial, a 5-year observational study from 2011-2016 involving 4,073 patients, showed a better safety profile with radiofrequency ablation with lower rates of phrenic-nerve injuries in comparison to those of balloon cryoablation. However, some studies have shown that the rate of perforation was higher with thermal ablation. The landmark FIRE AND ICE Trial, a multicenter randomized controlled noninferiority trial of almost 800 patients published in 2016 in NEJM by Karl Heinz et al. showed a similar result in terms of efficacy and end safety result between the two. A systematic review of 7200 patients by Yi-He Chen et al. concluded that cryoablation has fewer rates of atrial fibrillation recurrence, shorter procedural duration and similar fluoroscopy times. Similar other studies are favoring the use of balloon cryoablation due to lower rate of hospitalizations, repeat ablation, and cardioversions

METHODOLOGY:
Proposal: Quality improvement project comparing the safety and efficacy of radiofrequency ablation vs. balloon cryoablation via retrospective single center chart review study. Primary outcome: Comparison in Major Adverse Cardiovascular Events (MACE) between Balloon Cryoablation and Radiofrequency Ablation at 6 months and one year. Secondary outcome: Periprocedural safety and efficacy (including all-cause periprocedural death, thromboembolism, major bleeding episode, conscious vs. general sedation), need for antiarrhythmic drug treatment, repeat ablation, total procedure time, total fluoroscopy time, left atrial dwell time, all-cause hospitalization, non-cardiovascular death, pulmonary embolism, adverse events, AKI incidence.

RESULTS:
Cryoablation (n = 139) vs RF (n = 507). MACE - (OR 2.62, p: 0.045, CI: 1.1 - 6.28). Non cardiac ADEs (OR 6.47, p: 0.0029, CI 2.3098 - 18.1395). Death: (1 vs 2, OR 1.84, p: 0.52, CI: 0.16-20.28). Efficacy: Persistent afib at discharge: (OR 1.69, p: 0.08, CI: 0.85 - 3.07). Mean Contrast volume: (78 cc vs 44.8 cc, p < 0.0001). Mean LA volume: (3.94 vs 4.59). Mean Fluoroscopy time: (31 vs 32 mins, p: 0.86)

CONCLUSION/DISCUSSION:
In our retrospective single-center study, patients who underwent cryoablation for pAF had a statistically significant higher incidence of MACE and noncardiac ADEs. There was no significant difference in mortality rates or primary efficacy.

REFERENCES:
Safety and Efficacy Analysis of Balloon Cryoablation vs Radiofrequency Ablation in AFib.
(SECARA AFib TRIAL)

Dr. Aman Patel1, Dr. Som Aftabizadeh1, Dr. Daniel Jipescu1, Dr. Nachiket Apte2, Dr. Ahsan Khan2, Dr. Karan Gupta2, Dr. Lance Longmore2, Dr. Michael Pierpolin3, Dr. Madhu Reddy2, Dr. Senthil Thambidorai2

Background

According to the ACC/AHA/HRSG guidelines, Pulmonary-Venous Isolation has become the cornerstone approach in ablation for patients with medication refractory paroxysmal atrial fibrillation. (Class I). Radiofrequency ablation is the most frequently employed technology followed by balloon cryoablation. According to multiple, smaller studies in recent past, both procedures have similar efficacy in terms of recurrence with little difference in complication rate. The FreezeFx trial, a 3-year observational study from 2011-2016 involving 4,073 patients, showed a better safety profile with radiofrequency ablation with lower rates of phrenic-nerve injuries in comparison to those of balloon cryoablation. However, some studies have shown that the rate of perforation was higher with thermal ablation. The landmark FIRE AND ICE Trial, a multicenter randomized controlled noninferiority trial of almost 800 patients published in 2016 in NEJM by Karl Heinz et al. showed a similar result in terms of efficacy and safety rate between the two.

A systematic review of 7200 patients by Yi-He Chen et al. concluded that cryoablation has fewer rates of atrial fibrillation recurrence, shorter procedural duration and similar fluoroscopy times. Similar other studies are favoring the use of balloon cryoablation due to lower rates of hospitalizations, repeat ablation, and cardioversions.

Objective

- Primary outcome: Comparison of Major Adverse Cardiovascular Events (MACE) between FreezeFx Cryoablation and Radiofrequency Ablation at 6 months and one year.
- Secondary outcomes:
  - Periprocedural safety and efficacy (including all-cause postprocedural death, thrombembolism, major bleeding event, conscious vs. general sedation, need for antiarrhythmic drug treatment, repeat ablation, total procedure time, fluoroscopy time, left atrial dwell time, all-cause hospitalization, non-cardiovascular death, pulmonary embolism, adverse events, A/I incidence.

Inclusion criteria:
- Age of the patients between 18 and 85 yrs. Symptomatic PAF requiring ablation therapy as indicated by electrophysiology specialist. Documented treatment failure for effectiveness of at least one anti-arrhythmic drug (AAD Type I or III, including β-blocker and AAD incidence).

Results

Cryoablation (n = 139) vs RF (n = 507)

Primary endpoints:
- MACE: 12 vs 8
  - [OR 2.62, p = 0.045, CI 1.11 – 6.28]
- Non-cardiac ADEs 10 vs 6
  - [OR 6.47, p = 0.002, CI 2.3008 – 18.1395]
- Deaths: 1 vs 2
  - [OR 1.84, p = 0.52, CI 0.16-20.28]

Secondary endpoints:
- Efficacy: Persistent atrial fibrillation at discharge:
  - 10 vs 9
    - [OR 1.08, p = 0.08, CI 0.85-3.07]
- Mean Contrast volume: 72 cc vs 4.48 cc, p < 0.001
- Mean LA volume: 9.94 vs 4.99 (p = 0.17)
- Mean Fluoroscopy time: 31 vs 32 mins. p = 0.86

Conclusion

Preliminary analysis of the data suggests that patients who underwent BCA for atrial fibrillation had a statistically significant higher incidence of MACE as well as non-cardiac ADEs as compared to RF. Subgroup analysis showed that MACE and ADEs were driven against cryoablation primarily due to higher incidence of head/emboli, self access and access site bleeding/thrombotic complications in BCA group. There was no significant difference in mortality rates or primary efficacy.

References
Does Increased Concussion Knowledge Change Student Athlete Behavior?

First Author: Jon Payne, MD; David Yang, MD
Institutional Program: Methodist Health System Dallas
Additional Authors & Affiliations:

BACKGROUND/INTRODUCTION:
Concussions remain a common problem among student athletes. Despite increased research on the topic, issues including poor recognition of concussions and failure to report symptoms among athletes remain prevalent. In response to the rising concern regarding concussions, there has been an increase in legislation to provide education for student athletes across the country. However, it is unclear whether these programs improve concussion knowledge or athlete behavior.
So, are student athletes learning from their concussion education programs? Does gaining this knowledge affect their behavior?

METHODOLOGY:
A survey was conducted of 1,649 student athletes aged 13-18 from private and public schools in Dallas, Texas. Data was collected then interpreted using chi-squared.

RESULTS:
Our study found no significant relationship between concussion knowledge and symptom reporting among student athletes, with P-value of 0.132.

CONCLUSION/DISCUSSION:
Our study showed no correlation between concussion knowledge and reporting concussion symptoms. This is consistent with many studies that show no benefit from concussion education programs for student athletes. There are multiple directions available for future implications. Further research could include comparing multiple types of standardized education tools to have stronger influence on young athletes. Timing of education, including during treatment of a concussion, could also be considered.
An alternative would be shifting the focus of education to coaches, medical staff, and parents of student athletes. Studies have shown that education programs focusing on coaches and parents have shown benefit in concussion recognition and treatment. Therefore, it may be beneficial to further study and implement education programs for overseeing adults to change the culture of youth athletics.

REFERENCES:
Does Increased Concussion Knowledge Change Student Athlete Behavior?
Jon Payne, MD; David Yang, MD

Introduction
Concussions remain a common problem among student athletes. Despite increased research on the topic, issues including poor recognition of concussions and failure to report symptoms among athletes remain prevalent.

In response to the rising concern regarding concussions, there has been an increase in legislation to provide education for student athletes across the country. However, it is unclear whether these programs improve concussion knowledge or athlete behavior.

So, are student athletes receiving concussion education? If they do, are they more knowledgeable? Do they report their symptoms?

Methods
- 1,649 Student Athletes Surveyed (Details Below)
- Public & Private High Schools in Dallas, TX
- Ages 13-18

No personal identifying data was collected. The data was interpreted via chi-squared.

Survey

<table>
<thead>
<tr>
<th>Response to Concussion</th>
<th>Concussion Knowledge Among Student Athletes with Prior Concussion</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Knowledge</td>
<td>Low Knowledge</td>
</tr>
<tr>
<td>Stopped Playing</td>
<td>Kept Playing</td>
</tr>
</tbody>
</table>

Conclusions
Our study showed no correlation between concussion knowledge and reporting concussion symptoms. This is consistent with other studies that show no benefit from concussion education programs for student athletes.

There are multiple directions available for future implications. Further research could include comparing multiple types of standardized education tools to have stronger influence on young athletes. Timing of education, including during treatment of a concussion, could also be considered.

An alternative would be shifting the focus of education to coaches, medical staff, and parents of student athletes. Studies have shown that education programs focusing on coaches and parents have shown benefit in concussion recognition and treatment. Therefore, it may be beneficial to further study and implement education programs for overseeing adults to change the culture of youth athletes.

Bibliography
Follow-Up Evaluation of Medical Clear Space Following Fibular Open Reduction Internal Fixation Without Primary Deltoid Repair in Bimalleolar Equivalent Fractures

First Author: Dalton Ryba, DPM
Institutional Program: JPS
Additional Authors & Affiliations: Jordan Ernst, DPM (Paley Advanced Limb Lengthening Institute, West Palm Beach, Florida); Travis Motley, DPM, MS, FACFAS (JPS)

BACKGROUND/INTRODUCTION: To our knowledge, no study has quantified long term reduction of medial clear space and talar tilt in bimalleolar equivalent ankle fractures receiving lateral ankle fixation alone. In bimalleolar equivalent ankle fractures, where fracture of the fibula with concurrent medial ankle ligament rupture is sustained, conflicting evidence exists whether primary repair of the deltoid ligament is warranted, or if lateral ankle fixation alone is sufficient. In this study, we aimed to determine the efficacy of lateral ankle fixation in long term maintenance of the medial clear space (MCS) and talar tilt in bimalleolar equivalent ankle fractures not receiving primary deltoid repair. These objective findings will help guide surgical decision making when managing these injuries in the future.

METHODOLOGY: A combined retrospective and prospective study was performed. We compared initial post-operative ankle x-ray radiographs with ≥ 1 year follow-up radiographs, scrutinizing the medial clear space and talar tilt in individuals who received lateral ankle fixation alone in bimalleolar equivalent ankle fractures. Study subjects were randomly selected from the hospital patient pool treated with this particular method of fixation. In our study, we included all bimalleolar equivalents with MCS greater than 5mm that were treated with open reduction internal fixation without primary deltoid repair, and whom of which had a follow up of at least 1 year. To assess the change in medial clear space and talar tilt measurements over time, we used linear mixed models accounting for repeated measures within participants, with a random intercept and an unstructured variance-covariance structure. Additionally, patients were subjected to an oral survey (Foot and Ankle Outcomes Survey) to discern subjective post-operative outcomes.

RESULTS: 37 patients participated in the study. Study results show statistically significant reduction of medial clear space and restoration of talar position, and maintenance with this fixation method in follow-up subjects with bimalleolar equivalent ankle fractures. Adjunctively, subjects perceived their outcomes to be satisfactory as demonstrated by results of the Foot and Ankle Outcomes Survey.

CONCLUSION/DISCUSSION: In the current study, we aimed to assess the efficacy of lateral ankle fixation in the maintenance of the medial clear space and talar tilt reduction long term. While some authors contend primary deltoid repair in bimalleolar equivalent ankle fractures is warranted, our results suggest isolated lateral ankle fixation is adequate for long term medial ankle stabilization in bimalleolar equivalent fractures, and thus primary deltoid repair may not be indicated for long-term medial ankle stability. Furthermore, patient satisfaction is high at greater than 1 year post-operatively with this procedure. This will help guide surgical treatment decision making for surgeons treating these particular injuries.

REFERENCES
Follow-Up Evaluation of Medial Clear Space and Talar Tilt Following Bimalleolar Equivalent Fracture Fixation Without Primary Detoid Repair

STATEMENT OF PURPOSE

1. Aim 1.1: Determine the necessity of primary detoid repair in bimalleolar equivalent ankle fractures.
3. Aim 2.0: Determine potential long-term outcomes after 5 years of follow-up.

Rationale:
- Study has not quantified long-term medial clear space and talar tilt. Many have extrapolated clearspace after bimalleolar equivalent ankle fractures.
- There is no consensus regarding routine primary detoid repair.

METHODS AND HYPOTHESES

- Study Population: 37 adult patients (age 18-70) who sustained a bimalleolar equivalent ankle and underwent ORIF without detoid repair.
- Mean age of 32.0 years.
- 17 patients with bimalleolar equivalent ankle fractures and 20 patients with fracture dislocation.
- Mean follow-up time of 5.5 years.
- Quadriceps muscle strength measured using a 12cm scale.
- Statistical analysis performed using commercial software.

Hypothesis:
- We hypothesize that bimalleolar equivalent ankle fractures are not necessary to maintain MTS, Talar tilt, and long-term talar position.
- We also hypothesize that functional outcomes can be achieved without primary detoid repair.

PROCEDURES

- Operative Technique:
  - Surgical technique for bimalleolar equivalent fractures consists of a superior, central, incision approach. Careful dissection down to the tibia which is elevated to expose the fractures. Prior to tibial reduction, the syndesmosis is labeled allowing the ankle joint to be reduced. Biomechanical fixation is achieved with either neutralization or tension band plating depending on the mechanism of injury. Tibial length is usually associated with compressive forces into the syndesmosis. Fixation is performed with either syndesmosis or neutralization screws (depending on severity).

RESULTS

- In total, 47 patients were followed in the study. 62% female, and the mean follow-up was 5.5 years.
- Mean time from surgery to initial postoperative radiographs was 10 days. Mean time from surgery to initial postoperative radiographs was 12 weeks.
- There was no statistically significant difference in MTS or Talar tilt.

LITERATURE REVIEW

- Bimalleolar equivalent ankle fractures, specifically Bimalleolar fractures with complete deep soft-tissue injuries, are injuries necessitating surgical intervention. The need for surgical repair is dependent on the loss of stability and joint line depression and the presence of open fractures.
- The injury is believed to be due to a directrix occurring due to non-uniform distribution of force and subsequent cartilage degeneration.
- There are different theories in regards to fixation in these injuries, specifically whether direct or indirect repair of the detoid ligament is necessary. Some contend that fixation is required. However, there is evidence that without intervention, the syndesmosis remains stable.

ANALYSIS AND DISCUSSION

- Our study demonstrated no significant difference in MTS or Talar tilt in patients undergoing lateral or medial bimalleolar equivalent ankle fractures in the follow-up period.
- Furthermore, long-term functional outcomes were found to be well preserved in our study subjects.
- Regarding surgical decision-making, the study results support the findings of a previous study on bimalleolar equivalent ankle fractures.

CONCLUSION

- Our study suggests that bimalleolar equivalent ankle fractures are not necessarily a requirement for primary detoid repair.
- Additionally, long-term functional outcomes were found to be well preserved in our study subjects.
The Case of Interoperability and an Achy Young Lady

First Author: Dr. Michael Sansait
Institutional Program: Medical City Weatherford

Additional Authors & Affiliations:
Dr. Saji Pillai, Dr. Chris Rheams, Dr. Lisa Nash

BACKGROUND: Meaningful use, recently renamed promoting interoperability, is currently being implemented as a part of Medicare Access and CHIP Reauthorization Act of 2015 and Merit-based Incentive Payment System. There are four measures included by the program: e-prescribing, health information exchange, provider-to-provider exchange, public health and clinical data exchange. This case report outlines a patient whose care may have been improved with exchange of health information between several hospital systems.

METHODOLOGY: Review of relevant patient records and assessment of current public EHR data. Review of hospitalization cost for most common admission diagnoses was also performed.

RESULTS: Multiple areas of cost savings were identified but there were also several barriers to program implementation as detailed in the full case report.

CONCLUSION: Many aspects of this patient’s care could have been improved if interoperability were operational at the time. The full case report details how interoperability would have changed our management, the amount of potential savings, barriers to interoperability, and potential solutions to these barriers.

REFERENCES:

Achy Young Lady. What’s Her CK?

Michael Sansait DO, Lisa Nash DO, Saji Pillai MD, Chris Rheams MD

In Affiliation With University of North Texas and Medical City Weatherford

BACKGROUND
- In stage 3 of Meaningful Use, interoperability (HE) is one of the core objectives
- HE is defined as secure exchange of patient information between electronic health record (EHR) systems
- As of 2013, about 4 in 10 hospitals were able to send and receive secure electronic messages to and from entities outside of organization systems
- Many potential benefits including decreased cost through decreased repetitive testing, improving transition of care
- In this case, achieving HE could have introduced significant cost savings

CASE SUMMARY
- Thirty-year-old female with a 6-month history of diffuse myalgia, worsening in past 3 days
- Patient positives fatigue, malaise, generalized abdominal pain, reported history of McArdle’s disease
- Initial labs: elevated creatinine phosphokinase
- CT abdominal and pelvis was unremarkable
- Admitted for intravenous fluid treatment, records of other hospitalizations requested, initial pain control with IV opioid medication
- Attempts to deescalate were met with patient requests to increase opioid dosing and releasing care, which prolonged length of stay
- Records requested on admission arrived three weeks after discharge and revealed similar pattern of chemical dependence

CASE REVISITED
- 2 changes to patient’s care: improved transitional care to primary care provider consultation with an outpatient pain management physician during hospital stay
- Total cost of stay = $22,440.75

- Cost of patient’s hospital stay is comparable to cost of stay for common diagnoses
- Mental health/substance abuse accounted for 6% of all inpatient stays in 2014
- Average charges for the same DRG showed significant heterogeneity across institutions

COST COMPARISONS

- Less than 50% of hospitals routinely requested patient information outside of the organization
- HE dependent on EHR capabilities & organization policy
- Barriers to achieving HE include ethical concerns, logistical hurdles, & security of information transfer
- Financial incentives may work against sharing patient information across systems
- Potential solutions to these problems include incentive programs to keep track of bounce-back admissions across different organizations
- Different EHR vendors cause issues with interoperability
- EHR dissatisfaction is a complex issue that requires refinement of our current system

THE ISSUES WITH EHR

CONCLUSION
- Increased adoption of EHR, more opportunity for improvement
- HE has the power to improve healthcare through cost reduction & enhancing communication
- Hurdles & challenges are present, but benefits outweigh the cost of not refining our current tools
- Identification of actionable barriers is key to improving HE
- Increasing healthcare provider EHR buy-in will yield achievement of all stage 3 Meaningful Use objectives

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program directors, for their dedication and encouragement.
I want to thank Dr. Mann and Ms. Rescorla for their invaluable
feedback on this project.
I want to thank my family for their unconditional support.
Making an Advocate:  
Can GME Curricula on advocacy shape views and future practice goals?

First Author:  Megan Scott M.D.
Institutional Program:  Methodist Charlton Family Medicine Residency
Additional Authors & Affiliations:

BACKGROUND/INTRODUCTION:  
Contemporary and historical physicians have been expected to fill numerous professional and societal roles including that of health advocate. The CANMEDS framework defined health advocates as “physicians (who) responsibly use their expertise and influence to advance the health and well-being of individual patients, communities and populations.” Though many physicians agree their role should include health advocacy, it is often unclear how physicians are expected to acquire the knowledge, skills and experience to serve as effective health advocates in the fast-paced and evolving field of medicine. This study attempts to evaluate how exposure to curriculum on advocacy influences resident and faculty views on the role of family physicians as advocates.

METHODOLOGY:  
18 Residents and 6 faculty members in an unopposed family medicine program in Texas were surveyed regarding health advocacy knowledge, views on its importance, and prior experiences in advocacy. Pre-intervention surveys were collected prior to a four-part interactive lecture and workshop series on health advocacy. Topics included lobbying for policy change, Quality Improvement, supporting patients as health advocates and participation in community engagement. Residents and faculty then completed a post-participation survey, and residents were given the opportunity to participate in an optional state legislature lobbying event. Pre and post-intervention surveys were analyzed using one-way ANOVA analysis separated by PGY and faculty status.

RESULTS:  
Pre and post-intervention surveys did not show any statistically significant change when knowledge, importance and experience questions were compared among post-graduate years. Pre-participation surveys demonstrated high entry levels of importance scores regarding views on health advocacy that did not significantly increase on post-intervention surveys.

CONCLUSION/DISCUSSION:  
Based on the high pre- and post-participation survey scores, primary care physicians in this program felt it is important for family physicians to serve as health advocates. In fact, residents and faculty highly rated the importance of health advocacy and their knowledge on advocacy. Therefore, residents and faculty may have had increased exposure to advocacy through the curriculum, but may not have reported increased knowledge or experience. Self-reported surveys do leave room for bias and individuals have different levels of experience and expectations. Future areas of interest that would be beneficial to GME programs would include a standardized advocacy toolkit curriculum to continue igniting interest and building skills in health advocacy.

REFERENCES:  
Making an Advocate: Can GME curricula on advocacy shape views and future practice goals?

Megan M.M. Scott M.D.
Methodist Charlton Family Practice Residency

Introduction
The many roles expected to be filled by both contemporary and historical physicians include that of health advocate. Health advocacy has been defined several ways. The CANMEDS framework defined the health advocate as "physicians (who) responsibly use their expertise and influence to advance the health and well-being of individual patients, communities and populations."

Though many physicians agree that their role should include health advocacy on some level, it is often unclear how physicians are expected to acquire the knowledge, skills and experience to serve as effective social justice oriented health advocates in the fast-paced and ever evolving field of modern medicine.

This study attempts to evaluate how exposure to curriculum on advocacy influences resident and faculty views on the role of family physicians as advocates.

Methods
18 Residents and 6 faculty members in an unopposed Family Medicine Residency program in Texas were surveyed regarding beliefs on health advocacy, resident roles in advocacy, and physician roles in advocacy. Pre-intervention surveys were collected in July 2018 prior to a four lecture series on health advocacy topics including lobbying for policy change, Quality improvement projects, supporting patients as health advocates and participating in community engagement.

Residents and faculty were again surveyed in January 2019. Pre and post-intervention surveys were compared using one way ANOVA.

Results
Pre and post-intervention surveys did not show any statistically significant change when knowledge, importance and experience questions were compared among post-graduate years. Pre-intervention surveys demonstrated high entry levels of importance scores regarding views on advocacy that did not significantly increase on post-intervention surveys.

Conclusions
Based on high pre- and post-participation survey scores, primary care physicians and residents in this program felt it is important for family physicians to serve as health advocates. In fact, residents and faculty highly rated the importance of health advocacy and their knowledge on advocacy. Participants may have had increased exposure to advocacy through the curriculum, but may not have reported increased knowledge or experience. Self-reported surveys do leave room for bias. Future areas of interest that would be beneficial to GME programs would include a standardized advocacy toolkit curriculum to continue igniting interest and building skills in health advocacy.

Bibliography
[List of references]

[Image of methodology flowchart]

[Image of survey results chart]

[Image of residency advocacy poster]

[Image of faculty and residents]
Effect of Palpatory Neuromodulation of the Trigeminal Nerve for Tenderness in the Posterior Neck Musculature

First Author: Malinda Hansen DO, MS  
Institutional Program: Medical City Fort Worth

Additional Authors & Affiliations:  
Miral Vaghasia, DO, Kimberly Fulda, DrPH, Kendi Hensel, DO, PhD, FAAO  
University of North Texas Health Science Center

BACKGROUND/INTRODUCTION:  
The trigeminal nerve coordinates several reflexes in the head, including a head-retraction reflex (HRR) when a stimulus comes close to the face. HRR utilizes the posterior neck musculature (PNM) to remove the face from potential danger. PNM has been identified as a possible source of discomfort in headaches, muscular tightness, and chronic neck pain. Neuromodulation is the mechanical, electrical or magnetic stimulation used to affect a change in the signaling circuitry of a nerve to affect how sensory inputs are processed via neurotransmitters. Our goal in using neuromodulation on the trigeminal nerve where it exits the face is to influence the circuitry of this reflex to decrease the tension and pain of the posterior neck musculature. Osteopathic manipulative treatment (OMT) has many modalities, one of which is using constant palpatory pressure, or inhibition, for relief of discomfort. Typically, inhibition has been used with muscular tender points and other somatic issues. We are using the OMT palpatory pressure on specific points of the face where the branches of the trigeminal nerve are known to reside. This study investigated change in tenderness of the PNM before and after using an OMT-based neuromodulation intervention as constant pressure on facial trigeminal points. We hypothesized a decrease in tenderness of the PNM after the intervention.

METHODOLOGY:  
Fifty-two out of 100 subjects have been recruited thus far, 9 of which were excluded for no discomfort on initial assessment. The PNM was assessed for tenderness bilaterally using a 0-10 pain scale. If tenderness was present, the V1 and V2 branches of the trigeminal nerve endings on the face were assessed with an average pressure of 1.5±.21 lbs (left hand) and 1.6±.25 lbs (right hand), then given the 30-second neuromodulation OMT intervention. Using the IsoTouch system, average pressure used for intervention was 1.92 ±.16 lbs (left) and 1.92 ±.34 lbs (right).

RESULTS:  
The average change in pain pre to post PNM right versus left side is R 1.50±1.54 and L 1.48±1.44.

CONCLUSION/DISCUSSION:  
The variability seen in the 52 subjects in our pre to post-intervention suggests neck pain is a multifaceted issue. The range of how the tenderness changed could indicate a role for the HRR circuitry as a target for neuromodulation. Length of neuromodulation, the amount of pressure used, and indication for intervention are all possibilities for future research. Study funded by American Osteopathic Association #291PIT1811606

REFERENCES:  
Effect of Palpatory Neuromodulation of the Trigeminal Nerve for Tenderness in the Posterior Neck Musculature

Malinda Hansen DO, MS, Miral Vaghasia, DO, Kimberly Fulda, DrPH, Kendi Hensel, DO, PhD, FAAO

Introduction
Discomfort in the posterior neck musculature (PNM) has been implicated in various types of headaches including myofascial and tension-type headaches. Hypothesized etiologies of tender PNM include muscular tightness, disrupted somatosensory feedback of the neck (cervical, intervertebral, or chronic stress), and environmental triggers such as pressure changes, or sound stimuli. Treatment for discomfort in the PNM is rapidly broad and includes non-invasive and invasive therapies (NGIA) treatments. These interventions include trigger point injections, and massage. None of these treatments have an exceedingly high rate of effectiveness.

Neuromodulation is a physiologic process in the brain where one neuron can regulate different groups of neurons through neuromodulators such as serotonin, dopamine, acetylcholine, and epinephrine to effect changes in a neural circuit, signal, or pathway. The theory of neuromodulation is that mechanical, electrical, or magnetic stimulation of a nerve can be used to affect a change in the signaling activity of that nerve to effect tone, sensory inputs are processed. This complex phenomenon is one factor responsible for how one processes pain.

1) Our target area was the posterior muscle of the caudal process communicating with adjacent muscles on the medial edge of the cervical musculature (C7, T1).

2) Location of the nerve endings of V1 and V2 on the base of the spinous process is the T1.

The trigeminal nerve is responsible for the sensation of the face and motor function such as chewing and clenching. It contributes several fibers to the head, including a motor-innervation that is activated when any danger to the cranial nerve occurs to the face. This reflex may utilize the muscles in the posterior neck to move the face during danger, primarily the cervical muscles and dermonecromotor. This is the target for our neuromodulatory intervention. We worked to assess any change in tenderness of the PNM before and after the posterior CMT intervention. We hypothesized a decrease in tenderness of the PNM after the neuromodulatory CMT intervention.

Methods
Fifty-two subjects met the inclusion criteria to participate in this study. They were evaluated for 15 days post-intervention, and a pain assessment was provided. At the study visit, demographic information including age, gender, weight, and the treatment was recorded. The investigator identified landmarks on the posterior neck for assessment for PNM tenderness bilaterally. Subjects noted their pain using the 0-10 visual analog scale. This was recorded and then applied for 20 minutes to each study group. The pressure was noted and recorded using the IsolTouch system. Finally, the CMT was administered with the same initial pressure to evaluate pain changes concluding the protocol.

Results
Using the IsolTouch system, the trigeminal nerve endings on the face were assessed with an average pressure of 1.5 g, 20 g (left hand) and 1.8 g, 24 g (right hand). The average pain threshold for intervention was 1.5 g ± 14 lbs (left hand) and 1.8 g ± 24 lbs (right hand).

The average change in CMT pre to post was 1.46 ± 1.46. Descriptive analysis determined frequency counts, percentages, means, and standard deviations of the 43 subjects. Eight patients had no change in their posterior neck musculature and were not included in the data analysis. This study is ongoing. Significance was not calculated at the end of this pilot study.

Conclusions
The variability seen in the 37 subjects in our pre to post intervention suggests each pain is in a multifactorial issue. The range of true the tenderness change could indicate a role for the HPA circuitry as a target for neuromodulation. Length of treatment, amount of pressure used, and evaluation for intervention are all possibilities for future research. Furthermore, the IsolTouch system improved inter-rater reliability by providing real-time feedback on pressure used during the protocol.

References
5. IsolTouch system image produced by IsolTouch, Inc. Used with permission. 

Acknowledgments
Special thanks to Dr. Fulda for running our analysis, Dr. Hensel for advising on this process, and Dr. Webster for the concept of triaging the trigeminal nerve. This project was funded by American Osteopathic Association Resident Research Grant R001/R1181000.

Appendico-ileal fistula in a patient with Crohn’s disease: a case report

First Author: Ashley Vaughan, DO
Institutional Program: Medical City Fort Worth General Surgery Residency

Additional Authors & Affiliations: Dr. Jay Patel, DO – Medical City Fort Worth

BACKGROUND/INTRODUCTION:
A fistula involving the appendix and the terminal ileum is a very uncommon occurrence. Dating back to 1940, Garcia reported a case of an appendico-ileal fistula believed to be a congenital anomaly. However, the majority of case reports describing appendico-ileal fistulas are presented as complications secondary to an inflammatory process, most commonly acute appendicitis. This case report presents a 20-year-old female with an appendico-ileal fistula as a complication of terminal ileitis from Crohn’s disease.

CASE SUMMARY:
A 20-year-old female with a history of four months of abdominal pain presented to the emergency department with two weeks of acutely worsening pain. Her associated symptoms included nausea, diarrhea, and a 25-pound weight loss. The patient admitted to a previous diagnosis of Crohn’s disease five years prior based on CT imaging despite several normal colonoscopies. After several months of treatment, she had an outpatient MR enterography, which she reports was normal. She was instructed to stop her medications, and she remained symptom free until four months ago. Upon this admission, she underwent a CT abdomen/pelvis showing a 10-15cm segment of the distal ileum with diffuse wall thickening and surrounding edema consistent with Crohn’s disease. Colonoscopy revealed normal mucosa of the colon, and the pathology of the colonic mucosal biopsies demonstrated edema and lymphoid aggregate, negative for features of colitis or malignancy. Patient next underwent a CT enterography revealing active enteritis in the terminal ileum and a fistula tract from the distal ileum to the tip of the appendix. General surgery was consulted, and the patient was taken to the operating room for a diagnostic laparoscopy. Intra-operatively, the distal ileum was acutely inflamed and densely adhered in the pelvis, and the procedure was converted to open. The small bowel was freed from the pelvis, and the ascending colon fully mobilized. A fistula between the terminal ileum and the tip of the appendix was identified, and an ileocecectomy with primary anastomosis was performed. The operative pathology revealed features compatible with Crohn’s colitis with fistula formation. The patient did well post-operatively and was started on the recommended treatment regimen by the gastroenterology team. She was discharged home on post-operative day four.

DISCUSSION:
Appendico-ileal fistulas are very rare, and they are most often reported as a complication of acute appendicitis. There are case reports describing various presentations of appendico-ileal fistulas including as an ileal mass, an acute ileus, and a small bowel obstruction. This case report concludes that an appendico-ileal fistula is a possible complication of Crohn’s disease, and it should be considered in these patients.

REFERENCES:
Appendico-ileal fistula in a patient with Crohn’s disease: a case report

Ashley Vaughan, DO, Medical City Fort Worth; Jay Patel, DO, Medical City Fort Worth

INTRODUCTION

A fistula involving the appendix and the terminal ileum is a very uncommon occurrence. Dating back to 1940, Garcia reported a case of appendico-ileal fistula believed to be a congenital anomaly. However, the majority of case reports describing appendico-ileal fistulas are presented as complications secondary to an inflammatory process, most commonly acute appendicitis. These cases report distinct presentations of appendico-ileal fistulas, ranging from an ileal mass to an acute ileus. A patient with a known history of Crohn’s disease presenting with a small bowel obstruction secondary to an appendico-ileal fistula has also been described.

This case report presents a 20-year-old female with an appendico-ileal fistula as a complication of terminal ileitis from Crohn’s disease. An ileocolonoscopy with partial anastomosis was performed as surgical management.

CASE DESCRIPTION

A 20-year-old female with a history of four months of abdominal pain presented to the emergency department with two weeks of acutely worsening pain. Her associated symptoms included nausea, diarrhea, and a 25-pound weight loss. The patient admitted to a previous diagnosis of Crohn’s disease five years prior. The diagnosis was based on CT imaging despite several normal colonoscopies. After several months of treatment at the time of the original diagnosis, she had an outpatient MR enterography, which she reported was normal. Due to this, she was instructed to stop her treatment, and she remained symptom free until four months ago. Upon this admission, the underwent a CT abdomen/pelvis showing a 10-15cm segment of the distal ileum with diffuse wall thickening and surrounding edema consistent with Crohn’s disease. Colonoscopy revealed normal mucosa of the colon, and the pathology of the colonic immuno-histologie demonstrated edema and lymphoid aggregates, negative for features of colitis or malignancy.

Histology of surgical specimen: appendix with surrounding inflammation

CASE CONTINUED

The patient then underwent a CT enterography revealing active enteroitis in the terminal ileum and a fistulous tract from the distal ileum to the tip of the appendix. General surgery was consulted for evaluation. The patient was taken to the operating room for a diagnostic laparoscopy. Intra-operatively, the distal ileum was acutely inflamed and densely adhered to the pelvic side wall. The procedure was then converted to open due to the inability to control safely laparoscopically. Lyser of adhesions was performed, the small bowel was freed from the pelvis, and the ascending colon was fully mobilized. A fistula between the terminal ileum and the tip of the appendix was identified, and an ileocolonoscopy with primary anastomosis was performed. The patient did well with an unremarkable post-operative course. The treatment regimen remained by the gastroenteroligist team for her Crohn’s disease was maintained. She was discharged home on post-operative day four.

Histology of surgical specimen: small bowel ulceration and changes of Crohn’s disease

DISCUSSION

Appendico-ileal fistulas are very rare, and they are most often reported as a complication of acute appendicitis. There are case reports describing various presentations of appendico-ileal fistulas including an ileal mass, an acute ileus, and a small bowel obstruction.

This case report concludes that an appendico-ileal fistula is a possible complication of Crohn’s disease, and it should be considered in these patients.

REFERENCES


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Lisa R. Nash, DO, MS-HPEd, FAAFP
University of North Texas Health Science Center
Texas College of Osteopathic Medicine
Senior Associate Dean