Tennessee ACP awards

October, 2020
The Laureate Award

• The Laureate award is the most prestigious award given at the local level. It honors those fellows or master of the College who have demonstrated, by their example and conduct, an abiding commitment to excellence in medical care, educations, and research, service to their community, their chapter and the ACP

• Dr. Ryan Mire
Volunteerism and Community Service Award

• This award honors members who have distinguished themselves in voluntary service in the area of medicine. Volunteerism and community service is an established tradition for the College and for internists. The College considers volunteerism so important that it is a major criterion for advancing to Fellowship.

• Dr. Trey Harrell
Joseph Frederick Ralston Jr. Medical Student Scholarship Award

- In memory of former TN ACP governor and national ACP president, who spent his career supporting and advocating for primary care internal medicine. He exemplified all that IM represents. This award will be presented to a 3rd or 4th year medical student from a Tennessee medical school, who plans a career in primary care IM.
Chapter Service Award

• This award is to honor a member or fellow who has gone above and beyond in service to the chapter over many years. Their efforts and accomplishments have helped to sustain the chapter in all of its endeavors.

• Dr. Maria Tudor
Resident Recognition Award for Leadership

• This award recognizes a resident with qualities that exemplify the College’s mission to enhance the quality and effectiveness of health care by fostering excellence and professionalism in the practice of medicine, and who has made exemplary contributions to the College’s mission on a local or national level.

• Dr. David Jones
Woman Physician of the Year

• This award honors an outstanding woman physician with a distinguished career in areas of exceptional patient care, medical education and/or research.

• Dr. Mukta Panda
Distinguished Teacher/Mentor Award

• This award is given to a member or fellow who has demonstrated outstanding mentorship of students, residents or colleagues as demonstrated by a sustained commitment to providing personal and professional guidance to other health care professionals.

• Dr. Paul McNabb
Poster Awards

• Resident/Fellow Clinical Vignettes
• Resident/Fellow Research/QI
• Student First Place
Resident/Fellow Clinical Vignettes

• Benjamin Emery, MD
• UT Chattanooga
• Getting a Handle on the Situation: An Uncommon Cause For A Common Presentation
HaNDL-syndrome of headache and transient neurological deficits with CSF lymphocytosis

Getting a Handle on the Situation: An Uncommon Cause for a Common Presentation

Benjamin Emery MD MPH, Elizabeth Allyn Glover MS3, Juan Carlos Malpartida MD, Mukta Panda MD
Department of Internal Medicine, University of Tennessee College of Medicine – Chattanooga

Objectives:
1. Learn the presentation of “syndrome of Headache and transient Neurological Deficits with cerebrospinal Fluid Lymphocytosis” (HaNDL)
2. Outline an approach to differentiating HaNDL from other similar diagnoses
3. Understand the importance of obtaining a detailed history in patients presenting with headache or neurological deficits to avoid unnecessary treatment

Case Presentation
Our patient was a 37-year-old female with PMH of frequent optic neuritis and positive fluctuating hearing loss who presented with 1 week of fluctuating, progressive frontal headache, nausea, vomiting, an episode of peripheral vision loss, and increasing numbness. She reports no recent tick bite, enuresis, or depression, and her past medical history is otherwise unremarkable.

One year prior was admitted with similar presentation.
- Severe frontal headache, photophobia, mild facial numbness, and confusion after influenza virus upper respiratory illness
- LP showed WBC 95 with 98% lymphocytes, glucose 45, protein 99
- Diagnosed with viral meningitis. Symptoms resolved in 2 weeks.

Physical Exam
Vital signs: blood pressure 120/80, heart rate 78, respiratory rate 12, and temperature 98.6°F
- Head: left-sided hearing deficit, no nasolabial sinus tenderness
- Neck: normal, no nuchal stiffness
- Limbs: no weakness, reflexes were normal
- Sensory: no numbness, weakness, or sensory deficits

Labs/Imaging
- LP showed normal opening pressure, WBC: 625 with 98% lymphocytes; glucose 42, protein 44
- Mri and cta brain revealed only a large left mastoid effusion

Case Resolution
- Within 48 hours of presentation the patient’s headache significantly improved. Given the combination of headache, transient visual deficits, and lymphocytic pleocytosis, she was discharged with a diagnosis of HaNDL. At a subsequent clinic visit she reported continued headache with associated nausea. Further questioning also revealed that prior to admission she had experienced expressive aphasia and left motor deficits.

Discussion
OVERVIEW
- HaNDL is a self-limited acute meningitis, featuring episodes of severe headache accompanied by neurologic deficits and lymphocytic pleocytosis, usually occurring multiple times within several months.
- Thought to represent a viral-triggered autoimmune response resulting in leptomeningeal vasculitis and cortical spreading depression as in migraine
- It is a diagnosis of exclusion, often requiring an extensive workup to rule out life-threatening etiologies.
- Management involves only supportive treatment

DIAGNOSIS
- Clinical: Transient neurologic deficits – hom这话是 unable, dysphagia, or hemiparesis – are part of the CID5 diagnostic criteria, and may be seen in two types, the sensorimotor type of hemiplegic migraine1
- Also associated with headache (most commonly), visual field defects, encephalopathy, and other neurologic symptoms
- Approximately 50% of cases preceded by viral prodrome2

Imaging: MRI may show transient leptomeningeal enhancement and reduced brain signal representing focal hypoperfusion, in contrast to the enhanced venous signal of migraine. Changes often evolve in conjunction with pleocytosis and symptomology

HaNDL
- Predominant Symptom: Headache, transient neurological deficits
- CSF Pleocytosis: Lymphocytic
- Other Differentiations
- HaNDL
- Hemiplegic Migraine
- Infections
- Intracranial Neoplasms
- Drug-Induced Encephalopathy
- Toleration
- Rectal
- Neutropenic Meningitis

Key Takeaways
1. HaNDL is a self-limited, benign condition that presents with headache, transient neurologic deficits, and lymphocytic pleocytosis. This unique triad differentiates it from other life-threatening conditions such as stroke and hemiplegic migraine.
2. Imaging and lab testing alone are not definitive; these must be interpreted alongside the clinical presentation.
3. It is crucial to elicit a detailed history including symptoms resolved prior to presentation in all patients presenting with headache.

References
Resident/Fellow Research/QI

- Ahmed Minas, MD
- ETSU
- Epidemiological Differences in Incidence and Survival of Ureteral Cancer in USA, 2000-2016,
CONCLUSIONS

- Ureteral cancer is rare with a low age-adjusted incidence rate between 2000-2016.

- The 5-year relative survival was about 50%.

- Relevant patient factors that contribute to mortality rate include race and marital status.
  - Blacks have a higher mortality than whites.
  - Unmarried individuals have a higher mortality than married individuals.

- Relevant tumor characteristics that contribute to mortality rate include histology and grade.
  - Transitional cell carcinoma has better prognosis than adeno-, epithelial cell, and squamous cell carcinomas.
  - Grades III and IV have worse prognosis than Grade I does.

- These results identify disparities in survival outcomes among different patient populations with ureteral cancer.
Student First Place-3 way tie

• Christine Joyce, UT Medical Center, Knoxville
  • Hyperbaric Oxygen Therapy-Induced Seizures in Patients on Tramadol: A Case Series

• Irtiqa Fazilli, MS4, UT Memphis
  • A case of COVID-induced SIADH

• Rohan Tummala, MS4, UT Memphis
  • Clinical and Socioeconomic Predictors of Palliative Care Use
# Hyperbaric Oxygen Therapy-Induced Seizures in Patients on Tramadol: A Case Series

Christine Joyce, BS; Zach Poindexter, EMT; Michael Freeman, MD; Mitchell Goldman, MD; Daphne Norwood, MD  
Departments of Surgery and Medicine, University of Tennessee Graduate School of Medicine, Knoxville TN

## Introduction

Tramadol is an analgesic used for pain management. At therapeutic levels there is a low incidence of seizures; however, at higher doses tramadol inhibits γ-aminobutyric acid (GABA) which can induce seizures.  

Hyperbaric oxygen (HBO2) therapy works by increasing the atmospheric pressure while allowing the patient to breathe in 100% oxygen. This treatment is frequently utilized in wound healing centers for treatment of non-healing wounds but can also be used for a variety of other medical problems.

Seizures on HBO2 therapy are thought to be related to oxygen toxicity and lowering the seizure threshold. Occurrence of seizures at our institution when administering HBO2 therapy is less than 1%. In the last twelve months two out of three patients on tramadol had seizures while receiving HBO2 therapy in our wound care center. Therefore, we hypothesize that tramadol is a contributing factor to developing seizures while undergoing HBO2 therapy. This paper addresses various commonalities and differences between these three patients to determine the reasons of developing a seizure for patients receiving HBO2 therapy while on tramadol.

## Discussion

- HBO2 has been shown to interact with numerous medications through pharmacodynamic or pharmacokinetic mechanisms.
- Since these patients had not had seizures while on tramadol prior to HBO2, it can be assumed that they were not abusing or misusing the medication. Therefore, it must be concluded that the HBO2 contributed to this decreased seizure threshold.
- Since patients A and C were on the same dosage of tramadol, we do not believe that dosage of tramadol is a contributing factor.
- Receiving over 30 treatments of HBO2 may be a contributing factor to onset of seizure.
- Because patient A and C were on the same dosage for the same amount of time prior to HBO2 this would suggest length of time on tramadol is not a contributing factor.

## Conclusions

Patients should be carefully monitored if receiving >30 treatments of HBO2 while on tramadol.

## Cases

<table>
<thead>
<tr>
<th>Patients</th>
<th>Age (years)</th>
<th>Race</th>
<th>Sex</th>
<th>Reason for HBO2</th>
<th>No of Sessions</th>
<th>Length of Sessions (minutes)</th>
<th>Pressure (ATA)</th>
<th>Tramadol Dosage</th>
<th>Length of Time on Tramadol Prior to Start of HBO2</th>
<th>Seizure?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pt A</td>
<td>70</td>
<td>Caucasian</td>
<td>F</td>
<td>Soft Tissue Radiationcrosis of lower GI &amp; GU Tracts</td>
<td>54</td>
<td>90</td>
<td>2.5</td>
<td>50 mg BID pm</td>
<td>3 months</td>
<td>Yes</td>
</tr>
<tr>
<td>Pt B</td>
<td>73</td>
<td>Caucasian</td>
<td>M</td>
<td>Osteoradionecrosis of the mandible</td>
<td>32</td>
<td>90</td>
<td>2.5</td>
<td>50 mg TID pm</td>
<td>≥ 6 months</td>
<td>Yes</td>
</tr>
<tr>
<td>Pt C</td>
<td>49</td>
<td>African-American</td>
<td>F</td>
<td>Non-healing diabetic leg ulcer</td>
<td>30</td>
<td>90</td>
<td>2.0</td>
<td>50 mg BID pm</td>
<td>3 months</td>
<td>No</td>
</tr>
</tbody>
</table>

## Resources

A case of COVID-induced SIADH
Irtiqaa Fazli, Samantha Whitwell, David Wilbanks
University of Tennessee, Department of Medicine

Introduction
COVID-19 has a wide range of presentations, from asymptomatic cases to severe respiratory failure. Reports of atypical signs and symptoms are still emerging in the setting of the global pandemic. Here, we report a case of COVID-19 which presented with fever, hypotension, and evidence of atypical COVID pneumonia on CT scan [2].

Case Presentation
A 76-year-old African American female with a history of diabetes, hypertension, and hypothyroidism presented to the ED with 4 days of sharp left 10th abdominal pain localized to the left lower quadrant. The patient did not radiate and was not associated with food or diuretic. She endorsed diarrhea and denied any nausea, vomiting, or constipation. On presentation to the ED, the patient was found to be 38.3, blood pressure 114/66, pulse of 101, and respirations of 22 breaths/min. Patient was initially noted to be saturating at 98% on room air, which increased to 99% on 4L nasal canula. CT chest/lumbar/abdomen/pelvis showed patchy sub-pleural ground-glass and interstitial opacities and enlargement of the pulmonary artery. Labs were notable for sodium of 124, creatinine of 684.4, procalcitonin 0.19, and creatinine of 2.64.

Hospital Course
On admission, the patient was admitted to the ICU and confirmed to be COVID positive. She continued to have increased work of breathing and respiratory distress on high flow nasal cannula with FiO2 50%, so she was escalated to Vapotherm and admitted to the ICU. There she was treated with Remdesivir, convalescent plasma and steroids.

Case Discussion
SIADH causes euclidean hypernatremia, and the following criteria should be fulfilled to make the diagnosis [1].

Case Discussion (cont.)
More recently, as of June 2020, there have been reports of COVID-19 pneumonia-associated fever of vasopressin secretion. As in the case we present here, these cases have presented with fever, hypotension, and evidence of atypical COVID pneumonia on CT scan [2].

COVID-19 presentation varies widely, from asymptomatic to severe respiratory failure. Common clinical symptoms include fever (88.6% of cases), cough (68.6%), myalgia (35.1%), and dyspnea (21.9%). Less commonly, patients present with headache or dizziness (12.1%), diarrhea (4.6%), and nausea/vomiting (3.9%) [3]. In light of more recent cases, hypotension and electrolyte imbalances should be included in future meta-analyses to determine the rates at which COVID infections present with these signs. In the interim, the clinician should keep COVID-19 on his or her differential when a patient presents with fever and hypotension.

Viral, bacterial, and tubercular pneumonias can lead to SIADH, though the mechanism is unclear. In frequently, a similar response can be seen with other pulmonary diseases like asthma, allergic asthma, acute respiratory failure, and pneumonitis. We suggest that COVID-19-induced SIADH shares the same underlying pathophysiology as these conditions. One possible mechanism is a sequela of hypoxia-induced pulmonary vasodilatation, which reduces left atrial filling, and induces baroreceptors to stimulate release of ADH [2].

Conclusions
As healthcare systems continue to adapt to the global pandemic, it is important to identify signs and symptoms of COVID-19 as early as possible to assist in triage, isolation, and appropriate treatment of patients. As such, awareness of abnormal or non-respiratory presentations is key. In this case, the patient presented with diarrhea, abdominal pain, and hypotension due to SIADH. Her respiratory failure and pulmonary sequelae of the infection manifested relatively late in her illness; earlier clinical suspicion from her primary care provider could have resulted in earlier presentation, isolation, and intervention.

References
INTRODUCTION

Palliative care continues to gain recognition among primary care providers, as patients suffering from chronic conditions may benefit from use of this growing service. Socioeconomic status (SES) and clinical indicators such as the Charlson Comorbidity Index (CCI) could help physicians identify patients for whom earlier referral to palliative care may be beneficial.

OBJECTIVE

Do primary and palliative care patients at the University of TN Family Medicine Center, Memphis, TN (UTMCM) differ in disease burden and socioeconomic status?

RESEARCH QUESTIONS

• Are these clinical and socioeconomic predictors of palliative care use at UTMCM-M?

METHODS

Figure 1. Sample Selection

Primary Care

Palliative Care

Figure 2. Disease Burden and Income Across Risk Groups for Palliative and Primary Care Patients

RESEARCH RESULTS

Table 1. Patient Characteristics Stratified by Care Group

<table>
<thead>
<tr>
<th>Care Group</th>
<th>Sample Size</th>
<th>Age (Mean ± SD)</th>
<th>Gender (Female %)</th>
<th>Race (% Black)</th>
<th>SES (Quartile)</th>
<th>Charlson Comorbidity Index (CCI)</th>
<th>CCI &gt; 3 %</th>
<th>Hospice %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Care</td>
<td>100</td>
<td>74 ± 10</td>
<td>51 %</td>
<td>73 %</td>
<td>25 %</td>
<td>20 %</td>
<td>15 %</td>
<td></td>
</tr>
<tr>
<td>Palliative Care</td>
<td>20</td>
<td>76 ± 9</td>
<td>55 %</td>
<td>65 %</td>
<td>35 %</td>
<td>30 %</td>
<td>20 %</td>
<td></td>
</tr>
</tbody>
</table>

Figure 3. Results by Race

<table>
<thead>
<tr>
<th>Race</th>
<th>Cardiovascular</th>
<th>Neurological</th>
<th>Pulmonary</th>
<th>Gastrointestinal</th>
<th>Diabetes</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>40 %</td>
<td>35 %</td>
<td>25 %</td>
<td>30 %</td>
<td>25 %</td>
<td>20 %</td>
<td>100 %</td>
</tr>
<tr>
<td>White</td>
<td>50 %</td>
<td>45 %</td>
<td>20 %</td>
<td>35 %</td>
<td>35 %</td>
<td>20 %</td>
<td>100 %</td>
</tr>
</tbody>
</table>

Figure 4. Palliative Care Use by Number of Dichotomized Prediction Criteria Met

DISCUSSION

The results of this study show that palliative care patients had a lower incidence of disease burden, as evidenced by a lower CCI score (p = 0.001) than primary care patients. Palliative care-referral users tended to have very high rates of disease burden.

LIMITATIONS

- Moderate degree of oversampling in regression model
- Limited sample size in race-stratified validation
- Patient recall bias when reporting prescribed medications
- Height and weight were unavailable for patients in wheelchairs, so data are biased toward patients with better mobility and potentially higher survival chances.

FUTURE DIRECTIONS

- Identify patients' reasons for visiting palliative care
- Explore why some patients who are referred to palliative care do not keep their appointments
- Investigate why patients who make more palliative care appointments do not significantly differ in chance of 10-year survival and socioeconomic status.