CASE REPORTS

Sjogren’s Syndrome Presenting as Failure-to-Thrive in the Elderly: A Case Report

Author(s): David Chi, BS; Michael McShane, MD*; Gina Kim, MD*; Priyank Jain, MD

Department(s): Cambridge Integrated Clerkship, Medicine, Medicine Residency Program

Sjogren’s syndrome is a systemic autoimmune condition that most commonly manifests with sicca symptoms; however, when left undiagnosed and unmonitored, it can result in more severe sequelae. Especially in elderly patients, these common complaints of eye and mouth dryness are often overlooked by clinicians in the context of higher morbidity risk factors.

This report describes a 59-year-old female patient with past medical history significant for primary biliary cholangitis admitted for weakness, falls, and a 20-lb. weight loss. She reports progressive loss of appetite and preference for soups and stews without dysphagia or odynophagia. After extensive work-up excluded malignancy or socioeconomic obstacles to nutrition, further history revealed that in addition to worsening cirrhosis, her long-standing xerostomia contributed to her difficulty ingesting solid food. Based on this history, she was diagnosed with Sjogren’s after confirmatory testing of severely elevated levels of anti-Ro/La antibodies and ESR.

Xerostomia secondary to Sjogren’s syndrome has not been described in the literature to contribute towards failure to thrive and can easily be unnoticed by clinicians. Since it can exacerbate weakness, fatigue, and falls, medical professionals should be aware of Sjogren’s contributions to these problems prevalent in the geriatric population and its association with primary biliary cholangitis.

Why is the Calcium Still So High? – Accidental Vitamin D Overdose in a Healthy Young Male.

Author(s): Erica Dwyer, MD, PhD*; Melanie Brunt, MD

Department(s): Medicine

A 35 year old male presented with vomiting and dizziness for 2-3 weeks. He reported using marijuana as well as boric acid, chia seeds, Vitamin D powder and diametacious earth.

His calcium was elevated at 14.2mg/dl. Renal function was normal, Serum PTH was low; vitamin D, 25 hydroxy >150ng/ml. With aggressive hydration the Ca level improved to 12.4 mg/dL and he was discharged with instructions to avoid calcium products. He returned 2 days later with similar symptoms and a higher Ca of 15.8mg/dl. Per our estimate he had likely ingested six million units of vitamin D within a few weeks.

After receiving Zoledronic acid and hydration he was discharged with a Ca of 8.9mg/dl. Two weeks and 3 months after discharge his Ca levels were normal. His vitamin D level remained elevated (>150ng/ml) a month after discharge and was still unusually high (90ng/ml) 3 months later.

* Internal Medicine trainee
This case highlights the availability of vitamin D at toxic doses online and the importance of taking a thorough supplement history. It also shows the prolonged time course of vitamin D elimination and demonstrates the importance of treating both acute hypercalcemia (with IV hydration) and delayed hypercalcemia (with bisphosphonates).

**Rhabdomyolysis following exercise combined with a sports supplement containing multiple pharmaceutical stimulants**

**Author(s):** Chin Ho Fung, MD*; Pieter Cohen, MD

**Department(s):** Medicine

This is a case report of a 23-year-old male who developed post-exertional rhabdomyolysis likely associated with the use of a sports supplement. Patient was hospitalized for bilateral leg soreness after a strenuous workout with serum creatinine kinase 11,241 IU/L (normal 39-308 IU/L), and was subsequently diagnosed with rhabdomyolysis and treated with intravenous fluid.

Patient provided to his care team the unused supplements, which were sent for chemical analysis. One of the supplements named Black Mamba Hyperrush was found to contain various unlabeled pharmaceutical stimulants including significant dosages of oxilofrine (an analog of ephedrine), 1,3-dimethylamylamine (DMAA, an adrenergic amine), along with trace amounts of beta-methylphenylethylamine (BMPEA, an isomer of amphetamine), amphetamine, and multiple other stimulants. We reported these findings to the FDA’s MedWatch adverse event reporting program.

Weight loss and sports supplements are responsible for thousands of emergency department visits each year in the United States. We present a case of post-exertional rhabdomyolysis in a young male after consumption of a sports supplement containing multiple pharmaceutical adulterants. Physicians should be aware that many supplements contain pharmacologically active agents that may lead to adverse outcomes and are encouraged to report all potential supplement-related adverse events to the FDA MedWatch program.

**Chronic Mothball Toxicity in Setting of Cirrhosis**

**Author(s):** Krupa Parikh, MD*; Genevieve Bergeron, MD, MPH

**Department(s):** Medicine

*Learning Objective 1:* Recognize constellation of clinical findings to suspect Para-dichlorobenzene (PDCB- Mothball) toxicity.

*Learning Objective 2:* To address underlying diseases that may precipitate mothball toxicity.

**Case:** 51 year old female with a history of alcoholic cirrhosis, autoimmune hepatitis, and active alcohol use disorder initially presented with a one month history of ataxia, weakness and an extensive hyperpigmented, hyperkeratotic rash. She was treated for hepatic encephalopathy and discharged, but patient returned 1 month later after a fall and with continued progression of prior symptoms. Family revealed that patient had been chronically ingesting mothballs since childhood. Patient stopped ingesting mothballs after which rash and ataxia resolved. Chronic PDCB toxicity causes reversible neurotoxicity and rash, with studies reporting onset of symptoms 2 months to 6 years after exposure. Impact: This patient’s 43-year ingestion history is longer than what has previously been reported. The relationship between progressive liver disease and mothball toxicity is a novel addition to the literature.

* Internal Medicine trainee
Chronic toxicity affects liver, skin, central and peripheral nervous system. The reversible neurotoxicity from mothball intoxication has been well documented. A hyperkeratotic rash is also a characteristic of chronic toxicity. There are no studies that show how pre-existing liver disease affects PDCB metabolism.

**An Unusual but Easily Treatable Cause of Severe Abdominal Pain**

**Author(s):** Emily Unger; Shirin Karimi, MD*; Priyank Jain, MD

**Department(s):** Medicine

**Collaborating Institution(s):** Harvard Medical School

**Case:** Ms. C is a 53 year-old female with obesity, diabetes, asymptomatic ventral hernia, peripheral neuropathy, and a 2 week history of cardiac catheterization, who presented to the hospital with severe abdominal pain that began 2 days after the procedure. Pain was present in the right lower quadrant and right groin, close to the catheterization site. Patient described the pain as stabbing and constant, less when lying down, and worse with any movement or standing. Patient needed a walking aid due to the pain. Other GI or GU review of symptoms were negative.

Ms. C was admitted for pain control and further diagnostic workup including a CT of abdomen/pelvis, Doppler of femoral vessels, MRI of Lumbar spine, and CBC/CMP/UA. Results were nondiagnostic and her pain persisted. On hospital day 3, a more detailed physical exam revealed that patient’s pain was localized to a 2 cm sized area in the RLQ of her abdomen and this small area had reduced sensation to temperature and was numb. Patient had a positive Carnett’s sign. The groin was non-tender.

Ms C’s physical examination suggested neuropathic pain of the abdominal wall, specifically Anterior Cutaneous Nerve Entrapment Syndrome (ACNES) as a probable diagnosis. She consented for diagnostic trial of local anesthetic injection in the abdominal wall. 2 minutes after the injection, her pain was barely noticeable and she was walking unaided. She was diagnosed with ACNES and discharged pain free.

**Impact:** When working up severe abdominal pain, our diagnostic reasoning focuses mainly on intra-abdominal causes of pain. However, with a careful history and exam it is important to differentiate abdominal wall pain from more serious causes of intra-abdominal pain. This differentiation can save a patient from a stressful, expensive and potentially risky work-up, and get them lasting pain relief as quickly as possible.

**Discussion:** Ms. C’s duration of severe abdominal pain, hospital stay, and numerous tests were avoidable. The first step in recognizing this diagnosis is distinguishing abdominal wall pain from intra-abdominal causes of pain. An abdominal wall etiology is highly suggestive if pain is relieved when lying down and worse when standing up; worse with tensing the abdominal muscles (Carnett’s sign); and absence of other neuro/GI/GU symptoms.

ACNES is a cause of abdominal wall pain and may be responsible for 2% of patients presenting to the ED with abdominal pain. Abdominal wall pain is caused by the compression of abdominal cutaneous nerves within the rectus sheath and abdominal fascia. Patients have a discrete trigger point lateral to the Abdominus Rectus muscles. Diagnosis and treatment are the same: injection of point of maximal tenderness with Lidocaine and steroids. After injection, a patient with ACNES should have rapid pain relief.

* Internal Medicine trainee
CEO CLER Projects

Quality Treats – A Series of Brief Training Interventions and Feedback Cycles for Medicine Residents

Author(s): Erica Dwyer, MD, PhD*

Department(s): Medicine

CHA is part of a complex clinical and financial landscape engaged in multiple sets of quality improvement and safety initiatives that are often linked to specific targets and carry high stakes. However, our institution often does not actively train medicine trainees how to reach these targets. Since residents are busy and have changing schedules QI representatives struggle to communicate with them consistently. Consequently, few residents feel proficient in QI initiatives that directly affect their work.

I designed a series of brief teaching sessions to be held with small groups of residents in real-time as they work in the hospital. Topics focus on institutional priorities, such as standardized use of the discharge orderset, smoking cessation targets, and discharge huddles with nurses. Teaching scheduling was responsive to patient-care work-flow; participation was rewarded with snacks.

I report on 3 major outcomes. First, more residents report using QI tools and teaching others how to do so. Second, these sessions have provided an avenue for residents to ask questions and report back to QI designers about possible improvements of tools. Third, QI administrators have identified me as an informal liaison who helps them communicate rapidly with medicine residents, thereby accelerating cycles of feedback and improvement.

Teaching and Learning Rounds: Designing a Faculty Development Course Using Elements of the Learning Environment

Author(s): Michael McShane, MD, EdM*; Hugo Torres, MD, MPH; Priyank Jain, MD

Department(s): Medicine

Formal FD programs in medical education tend to be contradictory to major research and theory behind learning: workshops are rarely longitudinal, present superficial information, don’t target needs of teachers, and mainly use didactics (Bransford, 2000; Leslie, 2013). We set out to create a longitudinal FD course grounded in educational theory. The goal is to create a FD curriculum that is learner-centered, community-centered (Bransford, 2000), and helps our faculty to grow professionally.

We organized monthly 60-minute sessions with voluntary participation. We based the course within a constructivist epistemology, creating sessions that were: experiential (Dewey, 1986), social (Vygotsky, 1980), include elements of observation, reflection, and action, and based on preexisting understandings and knowledge (Piaget, 1952). Our evaluation focuses on our three main objectives. Initial qualitative data indicate that participants feel a sense of community, developing a change in epistemology, and are changing their behavior. Faculty regard the exercise as a “safe space” to explore best practices at our institution and ways to improve their own teaching.

We have implemented a FD course grounded in educational theory with a learner- and community-centric atmosphere. We are beginning to hear faculty describe changes in how they teach.

* Internal Medicine trainee
Post-intervention survey on scaling back contact precautions for MRSA and VRE

Author(s): Kay Negishi, MD*; Carolyn Fisher, PhD; Lou Ann Bruno-Murtha, DO

Department(s): Medicine, Institute for Community Health

Goals: In December 2014, CHA discontinued contact precautions (CPs) for methicillin-resistant Staphylococcus aureus (MRSA) or vancomycin-resistant Enterococcus (VRE). We surveyed staff’s beliefs, knowledge and practices surrounding standard precautions (SPs) and CPs. The goal was to shed light on knowledge gaps, misconceptions or practice inconsistencies.

Methods: A ten-minute anonymous online survey was designed, piloted in three successive iterations, and deployed in February 2017 to staff who perform clinical work in inpatient and emergency departments. Data were obtained and analyzed via Google tools.

Results: Preliminary survey results indicate nearly 90% recognize unclean hands are the main route of cross-transmission. Roughly three-quarters of respondents are either comfortable or indifferent with the change, and about half agree that their job efficiency has improved. Approximately a quarter of providers reported previously spending less time with isolated MRSA/VRE patients than non-isolated patients due to the time required to don gowns and gloves. However, many still incorrectly believe VRE requires CPs.

Conclusions: Misconceptions over CP and SP persist. This indicates a need for further education. The majority of respondents are pleased that SP have replaced CP for MRSA and VRE. Staff are spending more time with patients who otherwise would have been isolated.

Diabetes Self-Management Classes for Medically Complex Community-Dwelling Elders

Author(s): Cynthia Schoettler, MD, MPH*; Elizabeth Stanton, RD; Mary Ann Graham, MS, RD, LDN, CDE; Jonathan Burns, MD

Department(s): Medicine

Elders with diabetes often have diabetes related knowledge and skill deficits, negatively impacting management of their diabetes. Elders are rarely offered self-management education, despite evidence to the contrary.

The objectives of this project for medically complex community-dwelling elders were: 1) Identify diabetes knowledge and skill deficits, 2) Develop a reproducible diabetes self-management class, and 3) Improve self-efficacy, attitudes, and skills in diabetes self-management.

Participants were active enrollees in a Program of All-inclusive Care for the Elderly at Cambridge Health Alliance, an academic community healthcare system. All had a diagnosis of diabetes and no known dementia.

After focus meetings with providers it was identified that participants lacked: ability to identify and treat hypoglycemia, what is meant by ‘exercise’, and nutrition knowledge. A series of six 1-hour classes were taught weekly. Participants received a binder with handouts covering the class topics and additional references.

Participants overwhelmingly reported class was interesting and helpful. Attendance averaged 3-4 of 6 classes and was limited by logistics and comorbidities (1/3 of participants hospitalized for 1 or more of the classes). Overall there was improvement in knowledge, confidence, and ability to identify and treat hypoglycemia. At 3 months, participants had lost an average of 1.7 kilograms.

* Internal Medicine trainee
Implementing a Volunteer Visitor Program on 4 West

Author(s): Galina Tan, MD*; Genevieve Bergeron, MD; Elisa Tristan-Cheever; Carolyn Fisher, PhD; Stephanie Racca, RN BSN

Department(s): Medicine, Patient Information & Volunteer Engagement, Institute for Community Health, 4 West Med-Surg Unit

This poster will describe the implementation of a volunteer-based intervention to improve the care of elderly patients on the 4 West Med-Surg unit, who are at risk of delirium. Studies have shown that trained volunteers, in addition to proper hospital provider education, are an effective intervention to prevent and manage delirium and its related complications. We started a volunteer visitor program on 4 West in April 2016, in partnership with the nurses. We focused on process measures of quality improvement in order to make ongoing improvements and track progress. We will highlight the volunteer training sessions, describe the structure of the program, and share preliminary findings from the volunteer focus group that is scheduled for early March. We aim to make this a sustainable component of the patient experiences of care on 4 West, and hope to expand this program to other inpatient units at CHA.

Health Professions Education

Integrating Basic Sciences into Internal Medicine Residency Curriculum through the Case Method Pedagogy

Author(s): Michael McShane, MD EdM*; Priyank Jain, MD

Department(s): Medicine

Cooke and colleagues claim that strong foundation in basic science “...developed and expanded during a lifetime of practice permits the intellectual flexibility on which adaptive expertise depends. (Cooke 2010)”. Formal curriculum in basic sciences typically fades at the GME level. We are trying to counter that trend by implementing a resident taught curriculum that integrates basic sciences and clinical cases. All PGY2 residents present a 75-minute session once during our academic half-day.

In the beginning of academic year a workshop is held on how to design a case method session. Each PGY2 is assigned a date for the case, a subspecialty faculty advisor, a pathology faculty advisor and pedagogy advisors. To evaluate how the curriculum explores pathophysiologic concepts related to clinical care, we are collecting learning objectives of each session. To evaluate impact of curriculum on attitudes towards basic sciences, we are administering a questionnaire to PGY2 residents, adapted from a basic sciences attitudinal scale (West, 1982).

We are yet to deploy the questionnaire focused on the attitudinal assessment of residents involved in this curriculum. To date we have had a robust case series, which involved the following basic science topics.

Quality/Systems Improvement

Increasing MyChart Enrollment at CHA Ambulatory Resident Clinics

Author(s): Erica Dwyer, MD*; Lynn Anderson, MD*; Nihan Cannon, MD*; Maria Nardell, MD*; Jyothi Ravindra, MD*; Sonja Skljarevski, MD*; Kira Mengistu, MD*; Deborah Lee, MD*; Maren Batalden, MD

* Internal Medicine trainee
Background: Survey data show that patients of CHA ambulatory practices struggle to communicate effectively with their providers outside of clinic visits. CHA has invested in an electronic patient portal, MyChart, which holds the promise of improving communication between providers and patients, among other potential benefits. However, well under half of our ambulatory patients are enrolled in MyChart; even fewer are active users.

Approach: Preliminary work indicates that resident ambulatory clinics (at Primary Care Center, Somerville, and Windsor) have different workflow processes for MyChart promotion and enrollment. As such, small workflow changes will be tested with a variety of clinic team members at different times during the patient visit, with attention to how these roles are navigated at each site. Each small trial will be analyzed for percent successful enrollment and qualitative degree of disruption to existing workflow, to inform further proposed changes and trials. We will measure the final outcome via percent change of MyChart enrollees at each site by May 31, 2017. We will also collect qualitative data regarding the perceived disadvantages of and barriers to MyChart, as experienced and anticipated by providers and patients. This information is crucial to the evolution, promotion, and success of MyChart at CHA.

Social & Community Health

Teaching when you can’t speak: Leading shared medical appointments for linguistic minorities

Author(s): Cynthia Schoettler, MD, MPH*; Michael McShane, MD, EdM*; Nihan Cannon, MD*; Kelly Pereira; Yamini Saravanan, MD

Department(s): Medicine

Shared Medical Appointments (SMAs) are effective in teaching disease-related self-management and improving measures of control for chronic illnesses. Non-English speakers are often excluded due to limited provider linguistic capabilities, despite evidence showing that interpreters can overcome language barriers.

Objectives of this Quality Improvement project were to 1) Pilot SMAs for non-English speakers when providers do not share the same language, 2) Understand if SMAs using interpreters could be successful, and 3) Establish best-practices for this type of SMA.

Portuguese-speaking type 2 diabetic patients from the Cambridge Primary Care Center of Cambridge Health Alliance, an urban safety-net Harvard Medical School-affiliated community outpatient clinic that serves a diverse population were recruited for a monthly series of 10 SMAs.

Each SMA followed: pre-visit team huddle (physicians, Portuguese speaking medical assistant, interpreters); 60 minutes of brief focused visits for individual management; 60 minutes of group discussion; end-of-visit team de-brief.

Focus groups showed: Patients value the opportunity to ask questions, build skills and group learning. Interpreters function as critical team members and culture brokers. Providers are better able to learn about the patients’ culture, take an active listening role and collaborate with the entire team. All involved prized the interpretation of emotion.

* Internal Medicine trainee