

This Is Why You Take Your Vitamins

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Breast Conservation in Low- and Middle-Income Countries: Global Trends in Breast Cancer CarePhilip McCarthy¹, Jessica Maxwell², Benjamin Acton¹¹University of Nebraska Medical Center, College of Medicine, Department of Surgery, Division of General Surgery²University of Nebraska Medical Center, College of Medicine, Department of Surgery, Division of Surgical Oncology**Mentor:** Jessica Maxwell**Program:** General Surgery Residency**Type:** Systematic Review

Background: The safety and efficacy of breast conserving therapy has been well established and has become mainstay treatment for appropriate invasive and in situ breast cancer. This review is to determine the utilization of BCT in LMIC globally, and to assess factors contributing to surgical choice and use of adjuvant RT in BCS candidates.

Methods: Systematic review of breast conserving surgery in low- and middle-income countries was performed using Cochrane Library, EMBASE, and MEDLINE. After removing duplicates, 3,208 papers remained, with only 165 studies meeting inclusion criteria.

Results: The majority of high yield research into BCT came from China, India, Brazil, Turkey, and Egypt, with China having the most relevant papers (38). Given greater access to resources, these middle-income countries had treatment options similar to higher income countries. On the other end of the spectrum, lower income countries such

as Yemen, Zambia, and Nigeria are largely unable to perform BCT either due to lack of resources or greater presentation of late-stage disease.

Conclusions: Within the Low- and Middle-Income country paradigm, middle income countries are able to offer breast conservation surgery at higher levels compared to low-income countries. Difference in utilization of BCT is largely due to disparities in resource availability in middle income countries versus lower income countries. ■

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Anesthetic Considerations for Non-Cardiac Surgery in an Adult Patient with Right Atrial IsomerismSagar Bansal¹, Rebecca Aron¹¹University of Nebraska Medical Center, College of Medicine, Department of Anesthesiology**Mentor:** Rebecca Aron**Program:** Department of Anesthesiology**Type:** Case Report

Background: HS has an estimated incidence of 1 in 6000 to 1 in 20000 live births. Right atrial isomerism involves failure of the embryo to develop a normal left right asymmetry and presents as complex cardiac and extracardiac abnormalities. It results in bilateral right atria with an absence of left-sided structures. Presence of intracardiac shunts makes the use of IV air filters to decrease air embolism important. In this patient, a right sided arterial line was selected given a left sided BT shunt. BT

shunt flow was optimized by maintaining euvolemia and preventing increases in pulmonary vascular resistance (e.g., avoiding hypoxia, hypercarbia and sympathetic stimulation). General anesthesia was chosen to better control oxygenation and ventilation. Excessive PEEP and low airway pressures were ensured. Given obligate mixing, baseline oxygen saturations in the 70s were maintained. Given asplenia, antibiotic prophylaxis was given and strict sterile conditions during procedures were ensured. Stress steroids were given for panhypopituitarism. Aspirin was continued given the thrombosis risk associated with erythrocytosis.

Case: To discuss anesthetic considerations

in a 39 y/M with Heterotaxy Syndrome (HS), right atrial isomerism, pulmonic, Blalock Taussig (BT) shunt, asplenia, congenital panhypopituitarism, chronic cyanosis with clubbing and secondary erythrocytosis, with refractory hemorrhoids who presented for surgical hemorrhoidectomy. Baseline arterial oxygen saturations were in mid 70s and hemoglobin was 23.1 mg/dl.

Conclusion: Anesthetic management in patients with HS requires understanding of the cardiovascular anatomy to determine hemodynamic goals, limb selection for line placement and optimal treatment. ■

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This Is Why You Take Your VitaminsAlison Bauer¹, T. Jason Meredith¹¹University of Nebraska Medical Center, Department of Family Medicine**Mentor:** Jason Meredith**Program:** Family Medicine**Type:** Case Report

Background: This case report demonstrates the importance of long-term follow up and potential morbidity associated with vitamin

non-compliance in the setting of bariatric surgery.

Case: A 49-year-old male presented to clinic with right knee pain that began suddenly 1 week prior, possibly after tripping on uneven concrete. He endorsed knee swelling, weakness, sensation of instability, and pain with prolonged standing or walking. He noted

minimal improvement after icing/NSAIDs. He denied previous knee injuries. PSH was notable for gastric sleeve procedure 7 years prior. He reported being non-compliant with his post-procedure vitamin recommendations and had not been seen for follow-up regularly. On exam, tenderness to palpation along both medial and lateral joint lines and over the

proximal medial tibial plateau were present. He had positive Thessaly and non-painful crepitus with McMurray maneuvers. He was unable to complete a squat or full AROM due to pain. MRI knee revealed acute non-displaced proximal tibial metaphysis fracture-likely insufficiency fracture, joint effusion, and DJD.

Patient was made NWB and placed in hinged knee brace locked in full extension for 3

weeks and then progressive WB and ROM as typical for tibial plateau fracture management. Calcium & Vit D supplementation was prescribed, and the patient was referred to endocrinology for bone health optimization. Patient consent was obtained in order to use this information for education purposes.

Conclusion: Bariatric surgery has known risk of negatively affecting bone health. Different types of procedures have expressed variable

levels of risk and other factors including gender and vitamin regimens can affect long term sequela. Compliance and follow up could have potentially prevented this patient's fracture and overall morbidity, reinforcing their importance. ■

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Unilateral Livedoid Hyperpigmentation of the Lower Extremity

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Mentor: Ashley Wysong

Program: Dermatology

Type: Case Report

Background: Erythema ab igne is a clinical diagnosis that comes with a broad differential diagnosis. Thorough history taking and ruling out of other reticulate dermatoses enables for its diagnosis. It is most often seen in cases of prolonged exposure to heat (space heater, laptop usage, heating blankets).

Case: A 40-year-old female with past history of livedo reticularis, hypertension, type II diabetes, obesity, and traumatic brain injury presented to the emergency department with a 1-month history of left lower extremity rash, edema, and bullae. She denied any remote history of intravenous drug use or chronic heat exposure. Recent outpatient workup for livedo reticularis revealed no evidence of venous/arterial insufficiency or deep venous thrombosis.

Examination demonstrated net-like violaceous patches consistent with livedo reticularis, some non-blanchable, over the left lower extremity. Overlying, there were several tense bullae with clear fluid and other derroofed bullae as well as xerotic scaly plaques. Laboratory workup revealed an elevated erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) with unremarkable complete blood count (CBC), complete metabolic panel (CMP), antinuclear antibody (ANA), treponema pallidum antibody, and bacterial culture swab. With no immediate need for hospital admission, punch biopsy for hematoxylin and eosin (H&E) and tissue culture was obtained and triamcinolone 0.1% cream was started. The patient was discharged home. Biopsy revealed spongiotic dermatitis with prominent papillary dermal edema and no evidence of vasculitis, vasculopathy, or infectious etiology.

At a follow up visit, the patient noted that her home furnace had broken in March of

2020, at which time she purchased a large space heater which she had been using in very close proximity to her left leg. A diagnosis of bullous erythema ab igne with superficial ulcerations was made. Management options discussed included 5-fluorouracil, topical retinoids, and lasers, all of which were declined by the patient. She was instructed to place the space heater at a distance from her left leg. Vaseline, Telfa, Kerlix, and Coban were placed over the affected leg to use until reepithelialization had taken place. Patient consent was obtained for both photography and sharing of history in this case.

Conclusion: This case highlights the broad differential and workup for livedo reticularis, and it emphasizes the importance of thorough history taking and comprehensive physical examination. ■

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Varicella-Zoster Virus-associated Longitudinally Extensive Transverse Myelitis in an Immunocompetent Adult: An Unusual and Rare Complication of Herpes Zoster

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Mentor: Amrita-Amanda Vuppala

Program: Neurology

Type: Case Report

Background: Herpes Zoster (HZ) occurs from reactivation of Varicella Zoster Virus (VZV) in dorsal root ganglia. Common neurological complications include cranial neuropathies and encephalitis. Longitudinally extensive transverse myelitis (LETM) has rarely been described in immunocompetent

patients. We report a case of VZV-associated-LETM occurring despite a course of acyclovir for HZ.

Case: A 58-year-old immunocompetent male presented with HZ infection in right T4 dermatome. He received a course of acyclovir. Three weeks later, he developed right chest numbness attributed to post-herpetic neuralgia and received analgesics. A few days later he presented to ED with bilateral lower extremity weakness and numbness from T4 level. The initial MRI was normal. He

again received acyclovir for VZV-associated myelitis despite negative imaging. CSF showed lymphocytic pleocytosis, high VZV IgG levels. Bloodwork/CSF analysis ruled out other infectious/autoimmune etiologies. Five days later, MRI was again unremarkable. He developed rapidly progressive paraplegia. Thirteen days after admission, a third MRI showed a longitudinally extensive transverse myelitis, contrast enhancing and centrally located from C7 to T4. Decreasing the echo time (TE) on the STIR sequence helped make the diagnosis. Plasma exchange was