

Abstract

The purpose of this case study is to investigate the surgical treatment of a unique presentation of ulcerative cutaneous calcinosis or calcinosis cutis of the lower extremity. In this case, a 77-year-old Latin-American female who reported no significant past medical history presented to Aventura Hospital and Medical Center Emergency Department from her home accompanied by her daughter complaining of worsening right lower extremity erythema, edema, increased temperature and pain. Upon physical examination, it was noted the patient presented with multiple cutaneous calcified nodules to bilateral lower extremities, which she stated has been present for approximately forty years. At the time of evaluation, one of the nodules on the lateral aspect of the right lower extremity ulcerated and became infected due to unknown etiology which lead to cellulitis of this limb. X-ray imaging studies of bilateral lower extremities described extensive sheet-like soft tissue calcification overlying the mid to distal lower extremities. Serology reports of this patient was revealed positive for rheumatoid factor, ANA, SS-A/Ro antibody, and SS-B/La antibody. Due to the evidence of frank purulence and cellitic changes to the infected nodule the patient was taken to surgery the following day for sharp debridement and biopsy of the site. Post-operatively, there were minimal signs of improved healing to the wound base although there was evidence of decreased erythema and edema to the extremity following the initial debridement and biopsy. Four days following the initial surgical intervention, the patient was taken for a second operative procedure, which included a wide excisional biopsy with application of acellular dermal matrix and negative pressure therapy. It was during this secondary debridement that further calcified deposits were encountered and submitted to pathology. Pathology diagnosed the specimen submitted as cutaneous calcinosis. After undergoing routine bi-weekly wound care the patient healed unremarkably.

The Patient

77 year old Latin-American Female:

- Worsening right lower extremity redness, swelling, increased temperature and pain to the RLE over the past 3-4 days
- Pain and redness began on the posterior aspect w/o hx of injury/trauma, or bug bite
- Reports fever the first two days, minimal chills, denies nausea, vomiting, sweats
- Reports pain is dull, achy, burning in nature with 7/10 pain scale
- Pain worsen on palpation, weight bearing, and positioning
- No history of similar symptoms; however, hx of erysipelas 40 years ago
- No recent travel, no sick contacts, no recent illness

Past History:

- Hypothyroidism
- No drug, alcohol or tobacco history
- No current home medications
- No family history

Physical Examination

- **Cardiovascular:** Pedal pulses +2/4 to bilateral lower extremities. Normal Capillary Refill digits 1-4 b/l. Warm to touch
- **Neurological:** Gross and protective sensation intact b/l, proprioception intact b/l, no clonus noted b/l.
- **Musculoskeletal:** 7/10 pain to the RLE with palpation/touch. Antalgic Gait with limp with guarding to the right lower extremity. b/l LE plantar flexors and dorsiflexors 5/5
- **Dermatologic:** Ulcerated indurated calcified nodule/lesion with purulent to the lateral RLE approximately 4cm from the medial malleolus with erythema and calor streaking from anterior ankle to proximal knee. No probing, no tunneling, no undermining, no crepitus. Multiple stable hyperpigmented calcified nodules to b/l LE.

Labs

| | | | | | |
|-----|------|-----|-----|------|-----|
| 9.0 | 12.7 | 139 | 103 | 15 | 110 |
| | 246 | 4.2 | 29 | 0.95 | |
| | 38.6 | | | | |

- C-reactive protein: 7.33 mg/dL (0.000-0.300 mg/dL)
- Erythrocyte sedimentation rate: 68 mm/hr (0-12mm/hr)
- Serology positive for rheumatoid factor, ANA, SS-A/Ro antibody, and SS-B/La antibody.

Clinical Presentation



Figure 1A & 1B: Right Lower Extremity Cellulitis with Ulcerative Calcified Lesion

Imaging



Figure 2A & 2B: Radiograph of Right Tibia/Fibula with generalized morphea

Preoperative Workup

- Patient presented to AHMCED on May 5, 2017.
- Plain Film X-rays were ordered which revealed sheet-like soft tissue calcifications overlying the mid to distal right lower extremity, chronic in nature.
- Surgeries completed on May 7, 2017 and May 11, 2017 were performed for debridement with application of KCI Wound GraftJacket and KCI Vacuum Assisted Closure Therapy System.

Intraoperative Imaging



Figure 3A & 3B: Full Thickness Ulceration to the level muscle, tendon, fascia

Post-Operative Imaging



Figure 4: 7 weeks post-op healing wound with hyper-granulation buds

Conclusion

- Case illustrates a unique presentation of an atypical case
- Typical approach by a specialist is to forego debridement of these lesions
- Due to the suspicion of super-infection of the lesions it was medically necessary for the patient to undergo formal surgical debridement with application of an acellular dermal matrix graft and receive negative pressure therapy for optimal healing

References

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