The purpose of this case study is to investigate the surgical treatment of ulcerative calcinosis cutis in the lower extremity. In this case, a 77-year-old Latin-American female who reported a 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 tender 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 was ulcerated and became infected due to wound care which led to cellulitis of the limb. X-ray imaging studies of bilateral lower extremities identified extensive sheath-like soft tissue calcification of bilateral lower extremities. Serology reports of the patient were revealed positive for rheumatoid factor, ANA, SS-A/Ro antibody, and SS-B/La antibody. Due to the presence of family history and calcifications noted 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 area although there was evidence of delayed 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 debridement procedure, which included the excision of biopsy with application of a cellular 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 ulcerative calcinosis. After undergoing routine weekly wound care, the patient healed unremarkably.

The Patient

The patient is a 77-year-old Latin-American female.
- History of significant past medical history.
- No family history.
- No drug, alcohol or tobacco history.
- No recent travel, no occipital contacts, no recent illness.
- History of similar symptoms; however, he of erythema 40 years ago.
- No recent travel, no occipital contacts, no recent illness.

Past History:
- Hypothyroidism
- No family history.
- No drug, alcohol or tobacco history.

Past History:
- Hypothyroidism
- No drug, alcohol or tobacco history.

Physical Examination

- 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 guarding to the right lower extremity. b/l plantarflexors and dorsiflexors 5/5.
- Dermatologic: Ulcerated indurated calcified nodule/lesion with purulent to the lateral RLE approximately 4 cm from the medial malleolus with erythema and color streaking from anterior ankle to proximal knee. No probing, no tunneling, no undermining, no crepitus. Multiple stable hyperpigmented calcified nodules to b/l RLE.

Labs

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cr</td>
<td>9.0</td>
</tr>
<tr>
<td>BUN</td>
<td>4.2</td>
</tr>
<tr>
<td>Creatinine</td>
<td>0.030 mg/dL</td>
</tr>
<tr>
<td>Erythrocyte sedimentation rate</td>
<td>68 mm/hr (0-12 mm/hr)</td>
</tr>
<tr>
<td>Serology</td>
<td>positive for rheumatoid factor, ANA, SS-A/Ro antibody, and SS-B/La antibody</td>
</tr>
</tbody>
</table>

Clinical Presentation

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

Significant Findings:
- Pain worsened on palpation, weight bearing, and positioning.
- Reports fever the first two days, minimal chills, denies nausea, vomiting, sweats.
- Pain and redness began on the posterior aspect without history of injury/trauma, or bug bite.
- Ulcerated indurated calcified nodule/lesion with purulent drainage to the lateral RLE approximately 4 cm from the medial malleolus with erythema and color streaking from anterior ankle to proximal knee. No probing, no tunneling, no undermining, no crepitus. Multiple stable hyperpigmented calcified nodules to b/l RLE.

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 abypical case.
- Typical approach by a specialist is to forgo 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 a cellular dermal matrix graft and receive negative pressure therapy for optimal healing.

References


Preoperative Workup

- Patient presented to AHMDED 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 Graft/Jacket and KCI Vacuum Assisted Closure Therapy System.