

When all claims that it is necrotizing fasciitis but Point of care ultrasound (POCUS) proves the opposite!

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Introduction

Soft tissue ultrasound (ST-USS) has been shown to be of utmost importance in assessing patients with soft tissue infections in the emergency department or critical care unit. It aids in guiding the management of soft tissue infection based on the sonographic findings. In this case report, all clinical and biochemical parameters were in favour of the diagnosis of necrotizing fasciitis, however, Point of Care ultrasound (PoCUS) of the soft tissue did not show any features suggestive of necrotizing fasciitis. This was confirmed by the intraoperative findings of healthy intact fascia.

Case presentation

A 24-year-old female of African descent, presented to the Rashid Hospital Trauma Center with a complaint of painful right leg swelling of one week duration. The patient looked ill and was somnolent. She was febrile (38.2°C),

and tachycardic (110 bpm). Local examination of the leg showed cellulitis changes with multiple blisters and necrotic patches (Figure 1). Laboratory tests showed leukocytosis of $14.4 \times 10^3/\mu\text{L}$ ($3.6\text{-}11 \times 10^3/\mu\text{L}$), Hb 14.1 g/dL (11-15 g/dL), hyponatremia of 125 mmol/L (136-145 mmol/L), CRP 560.9 mg/L (0.3-5 mg/L) and procalcitonin 50.6 ng/mL (more than 10 ng/mL represents a high likelihood of severe sepsis).

Urgent surgical consultation was obtained and broad-spectrum antibiotics were initiated. Soft tissue ultrasound was performed by linear probe and showed superficial cellulitis with no fascial thickening nor sub-fascial fluid (clean fascia sign, Figure 2). However, due to clinical suspicion, the patient was referred for urgent surgical debridement for possible necrotizing fasciitis. Intraoperative findings were only positive for a superficial inflammatory process and the fascia was found to be healthy and intact. The patient was labelled as a case of complicated



Figure 1. Cellulitis changes with multiple blisters and necrotic patches.

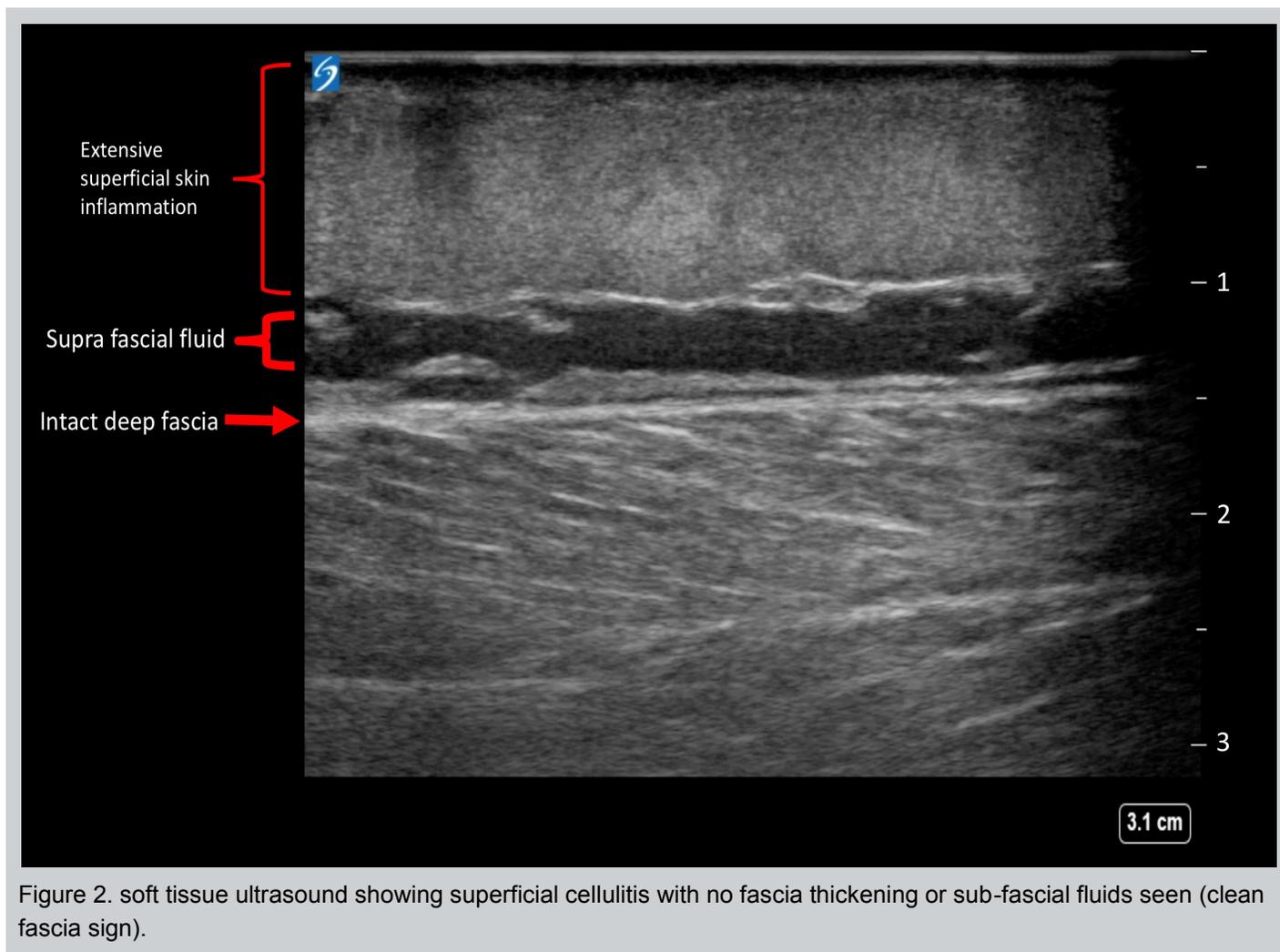


Figure 2. soft tissue ultrasound showing superficial cellulitis with no fascia thickening or sub-fascial fluids seen (clean fascia sign).

erysipelas and managed with daily dressing and antibiotics. The patient improved over a period of 2 weeks and was discharged home successfully.

Discussion

ST-USS has both diagnostic and therapeutic implications when used in the emergency department. It aids in differentiating abscesses from cellulitis and identifying necrotizing fasciitis in clinically suspected cases of soft tissue infections [1]. Clinical evaluation tends to be incorrect in 25-50% of cases. ST-USS may decrease unnecessary incision and drainage procedures [2].

In necrotizing fasciitis, there tends to be sonographic features such as thickened fascia, gas shadows, supra- and sub-facial fluid collections (dirty fascia sign) [3]. This helps in guiding early diagnosis and recognition of such cases to prompt surgical intervention.

Conclusion

This case demonstrates the utility of soft tissue ultrasound to have advantages over clinical and biochemical markers in the diagnosis necrotizing fasciitis.

References

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