



Beware the normal lactate!

A case of necrotising fasciitis post caesarean section

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Objective

Necrotising fasciitis (NF) is a rare but potentially lethal post-operative infection, resulting in necrosis of subcutaneous tissue and fascia.¹ It is a true surgical emergency with a mortality of 20.6%.²



This case highlights the importance of bedside clinical review and an awareness that markers of severe sepsis may appear normal.

Case Report

A 30-year old woman presented unwell, 7 days following emergency caesarean section which was performed in the early stages of labour. The procedure was uncomplicated and her first abdominal operation. Aside from smoking she had no co-morbidities. She presented with wound erythema, pyrexia and tachycardia so the sepsis pathway was initiated. Despite broad spectrum antibiotics, she continued to deteriorate so underwent emergency laparotomy and wound debridement.

Following initial improvement, tracking erythema, skin necrosis and severe tenderness were noted. She underwent a second wound exploration resulting in significant excision of >10cm x 20cm subcutaneous tissue and skin from her anterior abdominal wall. She was then transferred to critical care. Throughout the first 48 hours she had a modestly elevated white cell count but her lactate and creatinine remained normal.

Staphylococcus Aureus was cultured. Due to aggressive and atypical disease progression, bacterial genotyping was requested which revealed Panton-Valentine Leukocidin Staphylococcus Aureus (PVL-SA). During her 9 day critical care stay she underwent a further 2 wound debridements, subsequently recovered and was discharged with an infra-umbilical wound requiring negative wound pressure therapy.

Time from admission (hours)	0	4	8	24	48
White cell count (x10 ⁹ /L)	13	12.7	13.1	14.3	20.4
Lymphocytes (x10 ⁹ /L)	0.6	0.6	0.5	0.5	0.4
Lactate (mmol/L)	1	1.3	0.9	1.8	0.9
C-Reactive Protein (mg/L)	466	527	429	449	472
Creatinine (umol/L)	70	60	64	51	55
Albumin (g/L)	21	21	15	14	14

Table 1: Blood results, abnormal values in red

Discussion

The patient’s clinical condition was more severe than her blood markers suggested. Conventional markers of severe sepsis such as lactate and renal function were within normal range, therefore reliance on these could delay adequate management. Maintaining a high index of suspicion with early recognition and aggressive management is key to maximising the chances of a successful outcome.

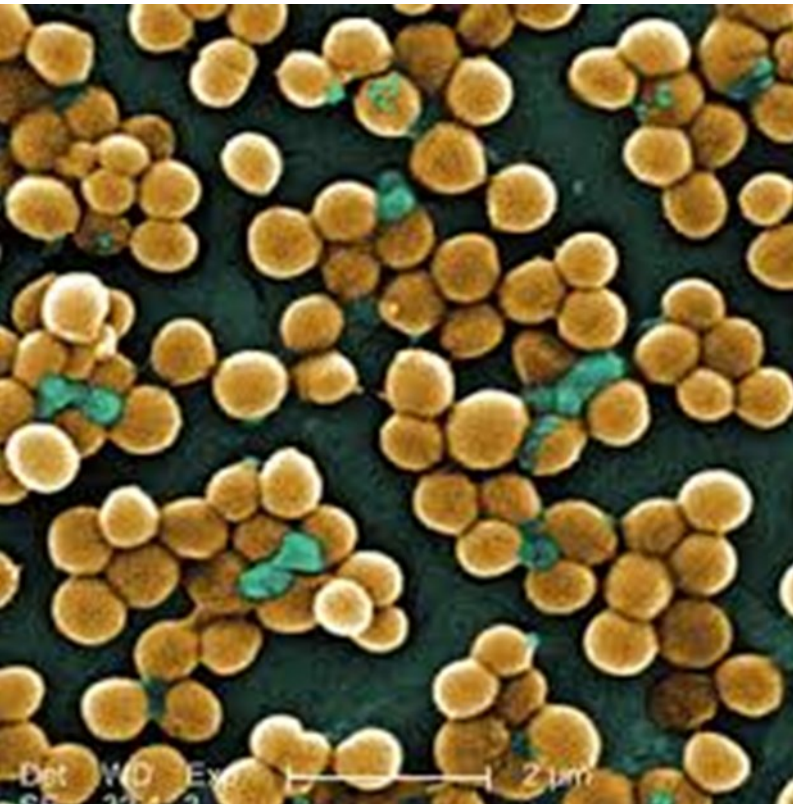


Figure 1: PVL-SA

PVL-SA is a rare but especially virulent toxin producing microbial. One maternal death has previously been reported secondary to PVL-SA in the UK by the Centre for Maternal and Child Enquiries (2011).³



Figure 2: Debrided wound on day of discharge

Take home message

In an increasingly protocolised healthcare system, this case emphasises the importance of bedside clinical review and not relying solely on blood markers to guide management. Rare presentations such as this requires a high index of suspicion and aggressive multi-disciplinary management for a successful outcome.

Salient clinical features of NF	severe pain, induration, skin necrosis and bullous lesions
Operative findings	grey fascia and areas of necrosis with easy to dissect tissue planes
Management	aggressive debridement, low threshold for re-exploration, proactive anti-microbial strategy with the microbiology team

1 Goepfert AR, Guinn DA, Andrews WW, et al. Necrotizing fasciitis after cesarean delivery. Obstet Gynecol. 1997;89(3):409–12.
2 Elliott DC, Kufera JA, Myers RA. Necrotizing soft tissue infections. Risk factors for mortality and strategies for management. Ann Surg 1996;224:672-83. PubMed doi:10.1097/00000658-199611000-00011
3 Centre for Maternal and Child Enquiries (CMACE). Saving Mothers’ Lives: Reviewing maternal deaths to make motherhood safer: 2006-2008. BJOG. 118 (Suppl. 1) 1-203