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Images in Neonatal Medicine:

Fulminant fatal necrotising fasciitis in an extremely preterm infant

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A 23⁺⁰ week gestation twin girl weighing 465 g was born via spontaneous vaginal delivery. On postnatal day 4 a small area of broken skin was noted on her back. Flucloxacillin and gentamicin were commenced and Cavilon cream was applied. Vancomycin was substituted after blood culture grew *Staphylococcus epidermidis*. A skin swab isolated skin flora only. By postnatal day 10, the lesion had worsened with a haemorrhagic petechial appearance and multiple abscesses (**Figure 1**). Staphylococcal impetigo was suspected and fusidic acid cream, mupirocin and paraffin ointment



Figure 1 Day 10 haemorrhagic petechial lesion with small abscesses

were added. Repeat blood culture grew *Klebsiella oxytoca* and meropenem was added. By day 12, there were extensive necrotic and gangrenous areas with ecchymotic ‘lakes’ of pus covering her head, back, groin and arms (**Figure 2**).



Figure 2 Day 12 extensive necrotic and gangrenous areas

Necrotising fasciitis was diagnosed. Repeat skin swab grew *Klebsiella oxytoca*, *Enterococcus faecalis*, *Staphylococcus haemolyticus* and *Aspergillus flavus*. Surgical debridement was considered unfeasible due to her extreme prematurity and progressive septic deterioration. Following a multi-disciplinary team meeting including parents, intensive care was withdrawn on day 12.

Necrotising fasciitis is a rapidly progressive, life-threatening soft-tissue infection that has been described in association with *group A* and *group B streptococci* and *Klebsiella pneumoniae*.¹¹ It is reported in term neonates but only rarely in preterm neonates.² Despite antibiotics and surgical debridement, mortality rate in older infants is high (59%).^{3,4} It may represent a lethal condition in extremely preterm infants where surgical debridement is not possible.

Acknowledgements: The authors sincerely thank the parents for allowing us to share their daughter’s case. We also thank Mr. Paul Chapman, Department of Medical Illustration and our dermatology and plastic surgery colleagues for their management input.

Contributors: RB wrote the first manuscript draft. All authors contributed to manuscript revision and approval of the final version.

Funding: None

Competing Interests: None declared

Patient Consent: Parental consent obtained

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