

# Management and Wound Care of Primary Cutaneous Aspergillosis in a Premature Neonate

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## BACKGROUND

- Premature neonates are vulnerable to fungal infections as their immune systems and integument are underdeveloped.<sup>1</sup>
- Invasion of aspergillus species through breaks in the epidermis can lead to the development of **primary cutaneous aspergillosis (PCA)**.
- If left untreated, the fungus can disseminate into deeper tissues, causing significant morbidity and mortality.<sup>2</sup>
- Treatment options are primarily pharmaceutical with rare indications for surgical debridement. However, concomitant **wound care protocols** may prevent further destruction of the neonatal epidermis.<sup>2</sup>

## PURPOSE

In this case report, we outline the successful management and wound care of PCA with extensive necrosis in a premature neonate.

## CASE PRESENTATION

- A 6-day-old male born prematurely at 23 weeks and 6 days presented with widespread white plaques and pinpoint black lesions along the midline of the back (Figure 1).
- Culture of the area returned positive for both *Aspergillus flavus* and *Aspergillus niger*.
- Appropriate antibiotic and antifungal treatment were initiated. However, consultation with the pediatric and plastic surgery teams, determined that surgical debridement was not possible due to the risk posed by the procedure.
- As treatment continued, the wound coalesced into brown necrotic patches overlaying 80% of the back (Figure 2).



**Fig 1:** Initial photograph of the affected area on the back (day of life 6).



**Fig 2:** Photograph noting the rapid progression and coalescence of the wound prior to intervention by the wound care team (day of life 16).



**Fig 3:** Photograph taken immediately after the removal of necrotic tissue over the back and axilla by the wound care team (day of life 22).



**Fig 4:** Photograph depicting new epithelial tissue with hypopigmented scarring (day of life 108).

## WOUND CARE

- **Management involved weekly checks by the wound care service and daily dressing changes by nursing staff.**
- Necrotic patches were removed with cotton-tipped applicators and covered with **Mepilex Ag antimicrobial patches**.<sup>3</sup>
- On day 22, the wound was thoroughly cleansed of necrotic tissue on the back, axilla, and neck. (Figure 3).
- **SilvaSorb Gel**<sup>4</sup> was applied to the edges of the eschar to enhance autolytic debridement until day 45.
- From day 45 to day 108, the cleaning and dressing process was continued by the wound care team and nursing staff.

## CONCLUSION

- By DOL 108, the wound had resolved and treatment by wound care team was discontinued (Figure 4).
- Prompt diagnosis and treatment of PCA infections are essential for preventing secondary systemic infections and additional complications.
- Susceptibility testing and environmental precautions should be taken to prevent secondary infection and further spread.
- In patients unable to undergo surgical procedures, **our experience suggests that meticulous and daily wound care may expedite healing and limit further spread of infection.**

## REFERENCES

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