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MULTIDISCIPLINARY MANAGEMENT OF EXTENSIVE FLAME BURNS IN A PEDIATRIC PATIENT: A CASE REPORT

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INTRODUCTION

Severe pediatric burns involving large total body surface areas (TBSA) carry high morbidity and mortality, requiring rapid resuscitation, advanced surgery, and ongoing rehabilitation to improve survival and function.

CASE PRESENTATION

- A 13-year-old male sustained **55% TBSA deep partial- and full-thickness flame burns** involving the thorax, abdomen, extremities, and gluteal regions.
- **He was admitted in critical condition** and received immediate airway stabilization, mechanical ventilation, fluid resuscitation, and broad-spectrum antibiotics.
- Circumferential limb burns required **urgent fasciotomies**.
- Serial necrectomies were followed by **staged allogeneic and autologous grafting, with limited donor sites necessitating reuse.**
- Postoperative care was complicated by fluid shifts, transfusion-requiring anemia, and pleural effusion requiring drainage.
- **Platelet-rich fibrin and autologous plasma injections supported epithelialization.**
- Rehabilitation included early mobilization, physiotherapy, and orthotics.
- At four months, functional recovery was evident despite residual contractures, hypertrophic scarring, and gait impairment.

Picture 1. Initial presentation with extensive deep partial- and full-thickness flame burns (55% TBSA).

Picture 2. Emergency fasciotomy and debridement for circumferential limb burns.

Picture 3. Staged autologous and allogeneic grafting following serial necrectomies.

Picture 4. 4-month outcome showing recovery with contractures and hypertrophic scarring.

Consent obtained from patient's legal guardian for use of clinical images.

CONCLUSION

This case underscores the importance of timely surgical intervention, innovative grafting, and coordinated interdisciplinary care in managing extensive pediatric burns. **Adjunctive regenerative therapies, including platelet-rich fibrin and autologous plasma, may aid healing when donor sites are limited**. Sustained rehabilitation remains vital for optimizing functional recovery and reintegration.

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