

Case Report

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Surgical treatment of scalp ulcers

Abordagem cirúrgica de úlcera do couro cabeludo

ABSTRACT

The scalp has a key role in maintaining the integrity of the osseous structure that protects the central nervous system. Its restoration, especially keeping the aesthetic appearance and shape following lesions, is challenging. The present study describes the case of a child with extensive slough and bone exposure in the scalp following a necrotising cellulitis-type infection, which was treated with debridement, microperforation of the calvaria, and application of a gauze bandage with vaseline. Granulation tissue formed after 10 days. A partial skin graft was later carried out with satisfactory results.

Keywords: bacterial infections; scalp; reconstruction.

RESUMO

O couro cabeludo tem fundamental importância para a manutenção da integridade do arcabouço ósseo que protege o sistema nervoso central. Sua restauração mantendo forma e aspecto estético após lesões é um desafio. O presente trabalho descreve o caso de uma criança com grande área de esfacelo e exposição óssea no couro cabeludo, após infecção do tipo celulite necrotizante, tratada com desbridamento, microperfurações da calota craniana e curativo com gaze vaselinada. Houve formação de tecido de granulação em 10 dias. Posteriormente realizou-se enxerto de pele parcial com resultado satisfatório.

Palavras-chave: infecções bacterianas; couro cabeludo; reconstrução.

INTRODUCTION

The outer protective covering structure of the brain is constituted of different and clearly distinct anatomical structures that can be classified as either soft parts (the scalp and its respective layers) or osseous tissue (calvaria). The soft parts are sub-classified into five different anatomical layers: skin, subcutaneous layer, galea, soft areolar tissue and pericranium.¹ Scalp ulcerations can be classified as either partial or total according to their thickness and anatomical compromising.

The clinical history of scalp lesions can be acute or delayed. In full-thickness scalp lesions (i.e., the lesion goes through all scalp layers to expose the calvaria), the osseous structure should be covered with vascularized tissue and the affected site should be properly closed in order to avoid areas of alopecia. In addition to furunculoid or cavitary myiasis, abscesses and necrotizing cellulite (as seen in the present case), other causes of scalp ulcers are traumatic injuries such as dog bites, burns, and neoplasias.²

CASE REPORT

A 17-month old patient was admitted to the emergency room of the Hospital Josina Machel (Luanda, Angola) with a neglected furuncle in the frontal region. Treatment had been attempted at home. The boil developed necrotic tissue and full-thickness ulcerated lesions on the scalp (Figure 1). The lesion measured 15 cm and 8 cm at its largest and smallest diameters, respectively, with irregular borders and purulent secretion. The external surface of the calvaria was visible. The debridement and cleansing with 0.9% saline solution were carried out, and a dressing with 1% silver sulfadiazine was applied and left in place for two days. The patient was then referred to the surgical center, where microperforations of the external osseous surface of the calvaria were carried out (Figure 2) and a dressing with petrolatum was applied and removed on the seventh day. On the tenth day, after the lesion was 95% granulated (Figure 3), a partial skin graft was carried out (Figure 4), resulting in the satisfactory integration of the graft (Figure 5).

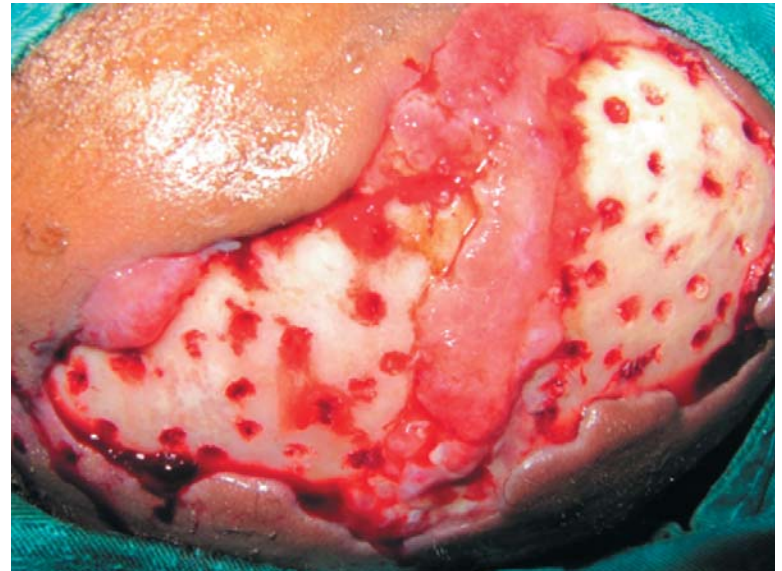


Figure 2- Microperforation of the external osseous surface at the surgical center, two days after the lesion's debridement

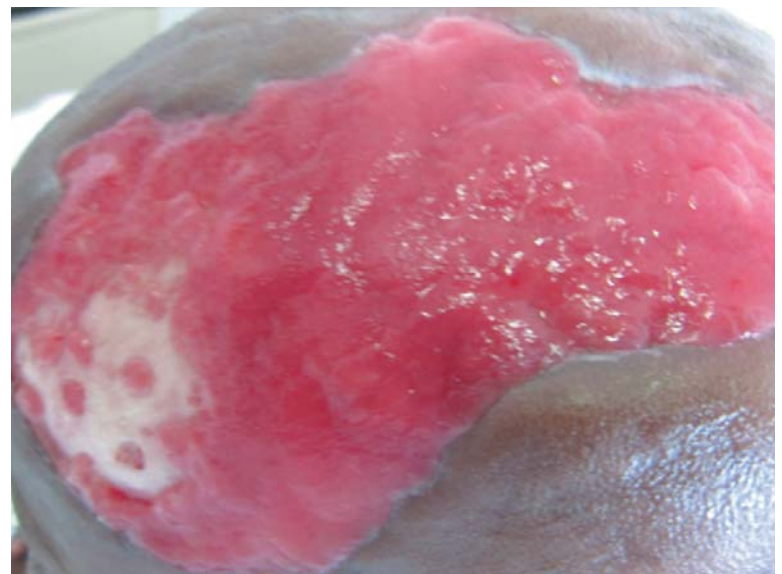


Figure 3- Granulation tissue on the lesion on the tenth day after the microperforations were carried out



Figure 1- Areas of ischemia on the external surface of the frontal and left parietal bones; the periosteum was destroyed by the infectious origin scalp lesion



Figure 4 - Appearance of the lesion seven days after the partial skin graft. Some areas still lack total integration of the graft



Figure 5 - Appearance of the lesion 30 days after the partial skin graft was carried out

DISCUSSION

In extensive lesions of the scalp, when there is a loss of pericranium¹ and infection, or when the patient is debilitated, the technique of creating multiple perforations in the external surface of the calvaria is the most suitable. This is especially true in children, since their diploë contains a large amount of richly vascularized spongy osseous tissue, which allows the formation of granulation tissue in a few days, on which a thin skin graft can be applied.³ ●

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