

Severe Perineal Burn: About One Case and Review of the Literature

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Abstract: burns of the perineum represent a challenge for the plastic surgeon, visceralist, urologist and anesthetist. In the acute phase, the patient must be stabilized with the insertion of a systematic urinary catheter and a colostomy if the anal region is affected. Directed wound healing with thin skin grafting is the most common surgical approach. Special attention must be paid to the functional and aesthetic sequelae. Through this interesting clinical case and the review of the literature, we will present the interest of an adequate management in both the acute and chronic phase.

Keywords: Burn, Perineal area, colostomy, graft skin

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I. Introduction

Burns of the perineum are relatively infrequent due to the anatomical unexposed nature of this area of the body and its protection by clothing [1]. They require hospitalization and follow-up in a specialized environment because of their potential severity, i.e. urinary disorders, hyperalgesia and the risk of sepsis. Burns of the perineal area are frequently exposed to faecal contamination, which may result in sepsis, graft loss, delayed wound healing or shrinkage of scars [2]. Functional and aesthetic sequelae have significant psychological repercussions that can hinder relational life. We present a case of severe thermal burning of the perineum complicated by loss of urethral substance and sepsis.

II. Observation

Case Report

The patient was a 63 year old men, victim of a thermal burn following direct and prolonged contact with a traditional brazero during syncope. The patient was not known diabetic, without psychiatric or cardiological history. The patient was admitted a week after his burn to our training for management. On admission, the general clinical examination found a conscious, respiratory and hemodynamically stable patient with a temperature of 37.8°C with blood pressure at 14/6 cmHg. Examination of the perineal region revealed complicated third-degree burns interesting perianal and scrotal areas with local infection. The burned skin surface is estimated at 7 % of the total body surface (Fig.1). After receiving emergency first aid and urinary catheterization, the patient was admitted to the O.R. for trimming necrotic areas showing loss of urethral substance (Fig.2). A temporary colostomy derivation was performed on an emergency basis. Triple broad-spectrum antibiotic therapy was administered intravenously (Metronidazole, Ceftriaxone and Gentamicin). The biologic assessment showed a Hemoglobin of 9.8g/dl, white blood cells of 12570/mm, C- Reactive Protein of 217mg/l and hypoalbuminemia of 23 g/l. Bacteriological swab samples were taken. A cardiological opinion was requested with prescription of antiarrhythmic treatment. One week after admission to the intensive care unit, the patient presented with sepsis with bacteriological results in favour of *meti-S staphylococcus aureus* and *enterococcus faecalis* requiring the administration of an appropriate antibiotic therapy. During his hospitalization, the patient was given daily dressings based on Argentic Sulfadiazine and local colistin until a non-infected and well-vascularized basement was obtained. Thin skin grafting with oral mucosa grafting of urethral substance loss was performed under general anesthesia (Fig.3). The evolution was marked by an improvement in the patient's general condition with resumption of walking and good grafting. From a urological point of view, the patient always keeps a urinary catheter at home without any major after-effects. On the psychological level, the patient was cooperative, with no disorders requiring specialized follow-up, with preservation of erectile function.

III. Discussion

Burns of the perineal area are relatively uncommon despite the common involvement of the lower trunk and the lower extremities in burn injuries [3]. The care meets the anatomical specificities of the area. The relative cutaneous fragility of the penis is opposed to the potential for healing of the pubis (hairy area) and scrotum. The fragility of the mucous membrane of the glans and the urinary meatus is offset by the possible protection of the foreskin. Ischemic risk is related to vascularization blood and lymphatic terminal of the penis. The operative risk is related to the relatively superficial urethra on the ventral side of the penis [4]. A conservative approach is usually the first line of management of perineal burns during the acute phase of admission [5]. Controlled healing of organ burns male external genitalia is the option of choice for the majority of the authors based on the excellent results in the area of scrotum and pubic area. The perineal area is cleansed daily with appropriate antiseptic and the wound is covered with antibiotic topical dressing. To avoid urine contamination of the burn area and the development of urethral strictures, the urethral tract is stented using an indwelling Foley catheter. The catheter is also used to decompress the urinary bladder and monitor urine output during the acute admission. The burn is left to demarcate over time with the wound left to heal by secondary intention. Non healing wounds are reconstructed using partial-thickness or full-thickness skin grafts [3]. Burns of the perineal area are frequently exposed to faecal contamination, which may result in sepsis, graft loss, delayed wound healing or shrinkage of scars. Although there is little literature on the management of perineal burns and faecal diversion strategies, diverting colostomy is often described to prevent faecal soiling [6]. Because this technique is an invasive procedure with frequent complications, use of nonsurgical devices has been described for the management of faeces in the setting of perineal burns, such as specifically designed faecal management systems (FMSs) [7]. These systems allow diversion of faeces away from the perineum promoting wound healing by decreasing the risk of faecal contamination. Cicatricial contractures around the perineum are the most common sequela of perineal burns. Scarring and scar contracture of the perineum is a common sequela of perineal burns, especially if they are left to heal by secondary intention.

IV. Conclusion

Burns Burn injuries of the perineum are relatively uncommon and management during the acute phase of injury is conservative. The urethral tract is stented with an indwelling Foley catheter and the wound is cleansed daily. The wound is usually left to heal by secondary intention and skin graft. Sexual functional and aesthetic after-effects will be prevented by therapeutic rigor in front of any deep burns. The retractable flanges and scarring cupboards are mentioned in the literature as the most common after-effects.

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Figures



Fig 1: severe perineal burn: necrotic plaque



Fig 2: urethral stricture



Fig 3: thin skin grafting: healing burning

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