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Case Report
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Keloid on the Penis after Circumcision: A Rare Complication

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Abstract

Keloids are defined as scars that extend beyond the borders of the original wound, do not regress spontaneously and tend to recur following excision. We report a 13-year-old boy presenting with a huge keloid formation on the penis after circumcision as a rare location for keloid formation and as a rare complication after circumcision. Therapeutic strategy consisted of surgical excision followed by intralesional corticosteroid injection and silicone gel sheet application.

Keywords: Keloid; Circumcision; Penis

Introduction

Keloids are elevated fibrous scars that from following dermal injury. They are characterized by fibroblastic proliferation and excessive collagen deposition. Many factors such as skin tension, darker pigmented ethnicity and genetic predisposition are parameters which play a major role in keloid development [1,2]. Patients typically present with aesthetic concerns, although keloids can also cause pruritis, pain, pressure and functional complications [2].

Most commonly keloids arise on the sternum, shoulders and upper arms, earlobes and cheeks [1,2]. Keloid formation on the penis is a rare occurrence [3]. We describe the case of a 13 year/old boy presenting with a huge keloid formation on the penis after circumcision and discuss the diverse management strategies for keloids.

Case Presentation

A 13-year-old boy presented with a huge keloid formation on the coronal sulcus of the penis, measuring 2.5 cm breadthways and 3 cm thickness (Figure 1 and 2). He did not complain about pain, burning or miction disorders, but about itching. The patient had undergone a circumcision at the age of 11 years and since developed the swelling on the coronal sulcus. Anamnestic there was no wound infection, no prolongated wound healing or skin tension. Neither the patient nor other family members ever had a keloid formation before.

In an out-patient intervention a circular incision was carried out to the level of superficial fascia intramarginally cranial and caudal in the keloid tissue. Before skin closure a corticosteroid (1 ml triamcinolone acetonide 5 mg/ml) was injected with a 27 gauge needle into the upper dermis of the wound edges. Skin closure was done by monofile caprosyn 5/0 interrupted sutures. Dressing consisted of a dexpanthenol ointment and compresses. There was no intra- or postoperative complications. Wound healing was uneventful and a silicone gel sheet was applied for 2 weeks. Two years following excision there was no recurrences (Figure 3).

Discussion

Circumcision is one of the oldest and most used surgical procedures. It is a relatively safe and simple procedure, however even under ideal circumstances, does carry the risk of complications. Often mentioned early complications are bleeding, inadequate skin removal and wound infection. They tend to be minor and quite treatable. Other serious complications include iatrogenic hypopadias, glanular necrosis and amputation [3,4]. Late complications include epidermal inclusion cysts, suture sinus tracts, chordee, redundant foreskin, urethrocutaneous fistulae, meatitis and meatus stenosis. Keloid development after circumcision is a very rare complication [3].

Keloid scarring is one of the most frustrating clinical problems in wound healing. Keloids are scars that extend beyond the borders of the original wound, do not regress spontaneously and tend to be notoriously recurrent following excision. They develop as a result of an abnormal

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Figure 1: Huge keloid formation on the penis occured after circumcision.

Figure 2: Excised keloid measuring 12 cm × 2.5 cm.

Figure 3: Late post-operative view.

wound healing. Many factors such as skin tension, wound infection, darker pigmented ethnicity and genetic predisposition seem to be parameters which play a major role in keloid development however the exact etiology is still unclear [1,2].

Simple total excision of a keloid stimulates additional collagen synthesis, thus sometimes prompting quick recurrence of a keloid even larger than the initial one. Therefore it is recommended to excise the keloid tissue intramarginally in order not to stimulate additional collagen synthesis and surgical therapy should be combined with adjuvant treatment such as pressure, topical silicone gel sheeting, corticosteroids and radiotherapy. Radiation therapy is contraindicated in children and not desirable for penile keloids due to the close proximity of germ cells [1,2,6].

Intralesional corticosteroid injection decreases fibroblast proliferation, collagen synthesis and suppresses pro-inflammatory mediators. The most commonly used drug for steroid injection is triamcinolone acetonide suspension at a dosis of 5 mg/ml to 10 mg/ml, which is injected intralesionally [6].

Topical silicone gel sheeting is a noninvasive and extensively studied approach to the prevention and treatment of keloids. The mechanism of action is unknown, but it has been suggested that silicone sheeting increasing the temperature, hydration and perhaps the oxygen tension of the occluded scar, causing it to soften and flatten as it affects local keratinocytes to alter growth factor secretion and secondarily influences fibroblast regulation [2,6].

Compression therapy is not practicable on the penis. Hence for our patient remained corticosteroid application and topical silicone gel sheeting as adjunct to surgical excision.

Knowing that keloidal scarring is one of the most frustrating clinical problems in wound healing as success rates in the management of keloids are poor despite new approaches for the treatment we are lucky that our patient is recurrence free 2 years after excision.

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