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Case Report (Open Access)

MANAGEMENT OF GIANT KELOIDS IN A LOW INCOME SETTING

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ABSTRACT
Keloids are frequent conditions in African and Asian races; the Giant presentation is rare. The clinical diagnosis is easy; the histology is important to establish the definitive diagnosis. Many options of treatment are available but recurrence is frequent. Here we are presenting a particular case of giant facial keloids in a 53 years old man living in a rural region of Niger republic. The evolution of lesions is about 20 years, the man was hiding the lesions and also he has no money to go to the hospital for treatment. We operate the patient and performed surgical excision of the lesions. The diagnosis of keloid was confirmed by histology. Corticosteroid infiltration was started to prevent the risk of lesions recurrence. The facial appearance of the man 6 months after surgery was acceptable. There was no recurrence one year after the surgery.

Keywords: *Corticosteroids, Face, Giant Keloids*

INTRODUCTION

Keloids are scars that grow beyond skin boundaries. They follow any injury to the deep dermis frequently in African and Asian races (Paul 2009). They are found in human being only. Their predilection site are the ear lobes, the shoulders, the mid chest and upper back, but rarely on the hands and feet. Once diagnosed many options of treatment are reported in the literature. Here authors report the management of giant facial keloid in regional hospital of Maradi in Niger republic follow by a literature review.

CASE

A 53 years old man with no medical history was referred from Dakoro with large facial masses gradually evolving since 20 years. The mass was disfuguring and painless. The mass was heavy and awful and the patient uses a turban to hide it. The general status was faire; there was history of slight injury during shaving which latter form a small bumpy scar. This small bump start growing over years. The physical examination revealed two disfiguring facial masses: the right mass was firm longer of about 35 cm x 10 cm from the right earlobe extending to the right chin and pending down to the abdomen. The smaller mass was firm on the left jaw extending from the left ear lobe to the tip of the left chin and pending down too to a lesser degree than the right side (figure 1). Other masses were found on his chest, his anterior part of his abdomen and on his hand. The diagnosis of large facial masses was retained which may be giant keloids associated to some genetic aberrations or malignant transformations. We initially wanted to refer the patient to Niamey to a plastic surgeon considering the localization of the masses and the cosmetic

inference after surgery. But he has a serious financial problem so that he cannot pay even for transport to Niamey. Surgery was decided in our institution and preoperative investigations were performed. The surgery combining linear incision and Z plasty permit us to remove about all the fibrosed tissues. After 1 hour 45 minutes we remove the giant mass which is about 35centimeters (cm) long and weighting 5 kilograms (kg) and the smaller mass is about 0.5 kg and 10 cm of length. The immediate post op outcome was uneventful and the patient's face was acceptable 24 hours after surgery (Figure 2). The masses were sent to histopathology to Niamey. Result was available after 3 weeks. The microscopic examination revealed a malphigien epitheluim lying on a regular basal layer. The subjacent tissue is made of large bundles of widespread collagen fibers, with less fusiform cells and important neovascularisations, no malignancy. The diagnosis of keloid was made. The patient started triamcinolone infiltration. Only the operated sites were treated with corticosteroids. We did 5 cures of 2 weeks each. We used 1 dose of 80 mg of triamcinolone in 9 ml of xylocaine. After 6 months the facial appearance was acceptable (figure 2: image C).

Figure 1: pré op images: Disfiguring facial masses

Figure 2: Post op images: A+B: immediate outcome; C: After 6 months

DISCUSSION

Keloids are scars that grow beyond skin boundaries following any injury. They are unique in human being, more frequent in African and Asian races (Paul 2009). The etiology of keloid is that related to fibroblast dysfunction. Chuma (2009) compared fibroblast of keloid and non-keloid scar and found that keloid fibroblast contains high level of type I procollagen and express excessive high content of certain growth factors like vascular endothelial growth factor, transforming growth factor β1 and β2 and platelet-derived growth factor. In addition, these cells demonstrated low rate of apoptosis and a down regulation of apoptosis. These above may explain the larger facial keloid of our patient especially on the facial tissue elastic and well supplied in blood. The commonest localization site for keloids are the ear lobes, shoulders, midchest, and upper back, but rarely on the hands, feet, axillae, or scalp (Paul, 2009). Our patient's keloids are located on the face, from the ear lobes to the chin on each side, the chest and abdomen. Such malignant cosmetic keloids reports are rare in the literature. But keloids are known to be disfiguring and esthetically displeasing with possibility of enlargement (Rei, 2019). In our setting

enlargement can be explained by the localization, the duration of the mass about 20 years and possibly the patient owns genetics. The cosmetic inference of giant keloids such in our study may make it rare because many patients may not support it for that a long time. The reasons in our case were not clear. Also in many cases the diagnosis may be obvious. The treatment may be decided immediately after the surgery. Initially in our case the diagnosis was not evident. As described some benign and malignant tumors (pseudo lymphoma, dermatofibrosarcoma protuberans…) may be resemble keloids (Tsai, 2019). We initially thought of some kind of benign or malignant tumor seeing the Hugh facial mass. But the histopathology result yields the diagnosis of keloids. Further analysis like histochemestry and genetic studies were not available and not done. Two lines of treatment can be clearly spared the conservative treatment option and the invasive option. The conservative treatments include Corticosteroids infiltration as first line of treatment of keloids and respond well for small keloids (Rei, 2019). The idle are 30G or 27 G needles inserted at the junction of the normal skin and the hard tissue. The target is the deepest part and the periphery to reach the optimum results flattening and softening of the scar. Associated with steroids, some contraindications are pregnancy diabetes mellitus, and also the dosage in some elderly and pediatric patients are to be considered. But larger keloids as our case cannot be handled with corticosteroids only. Cryotherapy in association with triamcinolone yield better results. The process of action of cryotherapy is to insert a cryoneedle in a keloid connected to a canister of nitrogen and freeze the scar it has been demonstrated to be successful and cost effective (Chuma, 2009). It was abandoned because of side effects (Paul, 2009; Chuma, 2009). The 5'fluorouracil, a pyrimidine analogue used since the 1980 as emerging option for the treatment of excessive scarring. It interferes with TGF-b signaling and decrease type I collagen gene expression in keloid fibroblasts in vitro. It's effective especially in association with corticotherapy and can be used in the management of refractory keloids (Chuma; 2009). The radiotherapy gives some good result after keloid excision, but is associated with carcinogenesis of breast and thyroid so is to be handled with care (Paul 2009; Chuma, 2009). The most encouraging laser therapy was the 585nm pulsed dye laser published by Alster (1995) and Chuma (2009) in the Lancet, it induced capillary destruction, hypoxemia and local collagen production, but was abandoned because of lack of sufficient evidence. The Korean Cho and colleagues (Cho, 2010) who demonstrated the 1064 nm neodym: YAG laser as promising in times of improvement for keloids and hypertrophic scars but in a small sample of population. The German guidelines recommended the combination of CO2 laser and corticotherapy with good results but no controlled studies available [Paul, 2009). Retinoid are chemically related to vitamin A and they are used in various skin conditions. It has been demonstrated to inhibit fibroblast proliferation, enhance epidermal growth, and promote normal regeneration. Their efficacy is yet to be proven (Chuma, 2009). The silicone base product was used in the 1980 as treatment for keloids, but many studies there after showed that they can only be used as prophylaxis and treatment of hypertrophic scar and minor keloids (Paul, 2009). Imquimod 5% cream is expensive need more studies to assess its success rate in keloids management (Paul, 2009). Bleomycin injection may inhibit collagen synthesis via decrease stimulation by TGFβ1, but further studies were needed to be considered in the management of keloids (Paul, 2009, Chuma, 2009). Interferon is effective in the treatment refractory keloids but very expensive (Paul, 2009, Chuma, 2009). And access may be difficult especially in underdeveloped countries. Somes studies are being conducted on the efficacy of hyperbaric oxygen for the management of keloids (Paul, 2009). Botuline toxine A (BTA) reduce tensile force during the process of healing and regulate the balance between fibroblast proliferation and cellular apoptosis yielded good result [Paul 2009) in the treatment of keloids. Basing on Gassner (Gassner, 2006) this may be suitable for our patient with the facial masses. But BTA is expensive and need further studies to state on its action on excessive scaring. For Karrer photodynamic therapy in vitro reduce type I collagen synthesis and fibroblast proliferation by generating a type of reactive oxygen specy which lead to cell apoptosis, membrane and mitochondrial damage and stimulate TNFα (Karrer, 2003). It yields good cosmetic result with fewer side effects but need further studies. Recombinant TGFβ3 Justiva (avotermin) is used for the excessive scar, but no enough evidences in the literature (Chuma, 2009, Paul, 2009). Invasive procedure to be cited in this study is surgical excision and steroid infiltration. It gives some reasonable results as in our case. For

Kelly (Paul, 2009) and many other authors, there is no suitable treatment for keloid, but excision and corticosteroids infiltration is the standard. Linear incision and Z plasty help respect the dermal wound closure with no tension and reduced subsequent risk of recurrence. The steroid injection is to start before the initial closure for some and 2 weeks later for others (Rei, 2019). Our patient facial appearance seems to be acceptable 6 months after surgery. And there was no recurrence on the face. Ogawa (Rei, 2019) reported an algorithm for the treatment of keloids in two parts, the general medical level and the specialized medical management.

Conclusion

Giant keloids are rare, it will be difficult to get a series that will make understand its natural history and management. This lesser may not be different from that of smaller keloids. Triamcinolone infiltration is important to avoid recurrence and reduce side effects. It can be used in association almost all the treatments options to yield better results.

Conflict of interest: None

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