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Case Report

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KELOID- A CASE REPORT AND REVIEW ON UN-AESTHETIC FORM OF WOUND HEALING

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ABSTRACT

Keloids are overgrowth of soft tissue which are smooth, hard, benign growths that form when scar tissue grows excessively. Usually appear as nodules, pruritic nature. Keloids generally do not regress spontaneously. These often occur on the chest, shoulders, upper back and earlobes. Keloids harmless to health but they can create cosmetic concerns. The purpose of this paper is to discuss the reported case with the pathophysiology of the same.

KEYWORDS: Keloid, Scar, Benign, Nodule.

INTRODUCTION

A keloid is a cutaneous mass that characteristically develops following dermal injury to scar tissue.[1] The term keloid was originally described in 1800s as "cheloid," derived from the Greek word "chele" means "crab claw.". In some individuals, an aberrant healing process results in excessive scar formation that may extend well beyond the original boundaries of the wound, resulting in a significant and troubling cosmetic defect called keloid.[2] Inflammation and wounding of the skin, either from ingrown hair or shaving blades, are perhaps the leading triggering factors in formation of these keloids in genetically susceptible individuals.[3] here we report.

CASE REPORT

A 20year old medically fit patient walks into the department of oral medicine and radiology with a complain of swelling on left side of the neck since 3 years. Patient had got a minor injury in the same region due to fall from cycle 5 years ago, for which suturing was done. Swelling was slow growing nature and attained the present size (Figure 1). On examination the swelling was extending superiorly 1.5cm from the inferior border of the mandible and extending 3cm posteromedial about 4cm from the midline. Swelling was dumbbell shaped and non-tender on palpation. Based on history and clinical examination provisional diagnosis of keloid scar of the neck was considered. Surgically excision was done by giving a Z- Plasty incision after obtaining informed consent from the patient (Figure 2 and Figure 3). Histopathological sections showed normal stratified squamous epithelium and an underlying fibrous connective tissue, areas of dense collagen bundles with hair follicles and sebaceous glands (Figure 4) which confirms the diagnosis to be Keloid.

DISCUSSION

The keloid scar is a cutaneous mass characterized by nodular fibroblastic proliferation of dermis and a predilection for distinctive anatomical locations.[4] Keloids form following dermal injury and exhibit aberrant, exuberant collagen growth. While the characteristic clinical feature of a keloid is invasion of adjacent normal dermis, appearance of satellite lesions in nontraumatized tissue has not been described in individuals without a predefined associated syndrome or genetic predisposition.[5,6]

Pathophysiology of Keloid has always been a point of interest. Understanding the normal sequence of wound healing phenomenon is important before knowing the pathophysiology keloids. Normal wound healing occurs in three phases: (1) The inflammatory phase, (2) the proliferative or granulation phase, and (3) the maturation or remodelling phase.[7] Keloid represent aberrations in the fundamental processes of wound healing, in which there is an obvious imbalance between the anabolic and catabolic phases, in addition keloids seem to be a more sustained and aggressive fibrotic disorder. Evidence to date strongly suggests more prolonged inflammatory period, with immune cell infiltrate present in the scar tissue of keloids which may contribute to increased fibroblastic activity with greater and more sustained extracellular matrix deposition.[8]

Factors that are responsible for the pathophysiology of keloid are inflammation, fibrogenic response and genetic and hormonal factors.[8,9,10]Differential diagnosis to be considered are granuloma faciale, lobomycosis and keloid morphea.[4]

Clinical staging of keloids can be considered before giving the final Diagnosis (Table 1). Considering the staging system, Reported case can be categorized as Stage I B.[11]

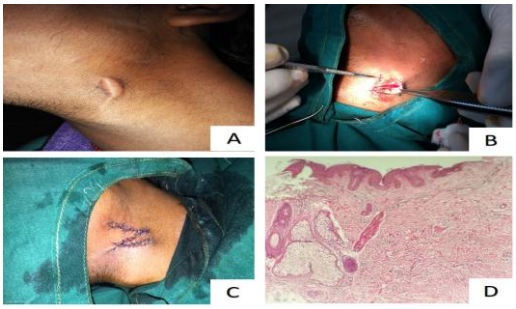

Figure 1: A dumbbell shaped keloid of the neck.
Figure 2: Surgical Excision of the lesion.
Figure 3: Plasty Completed and Sutures Placed.
Figure 4: Histopathological Features.

Table 1- Staging system of Keloids with Description.[11]

STAGE	DESCRIPTION	
Stage 0:	Genetically predisposed. At least one parent has had keloids. Index person has no clinical evidence or history of keloid or any hypertrophic scars.	
Stage I	Presence of only one keloidal lesion	
	Stage I A	Presence of only one keloidal lesion that measures no greater than 2 centimeters in any dimension.
	Stage I B	Presence of only one keloidal lesion that measures 2.1 – 10 centimeters in any dimension.
	Stage I C	Presence of only one keloidal lesion that measures greater than 10 centimeters in any dimension.
Stage II	Presence of multiple keloidal lesion. The sum of the largest diameter of the keloids is up to 30 centimeters.	
	Stage II A	Keloids measure ≤ 2 centimeters in largest diameter; the sum of the largest diameter of all keloids measures 10 centimeters or less.
	Stage II B	Keloids measure ≤ 10 centimeters in largest diameter, at least one keloid measures 2.1 – 10 centimeters in its largest diameter; the sum of the largest diameter of all keloids measures 10.1 – 20 centimeters.
	Stage II C	At least one keloid measures 10 centimeters in largest diameter; the sum of the largest diameter of all keloids measures up to 30 centimeters.
Stage III	Presence of multiple keloidal lesions; the sum of the largest diameter of the keloids measures 30.1 – 50 centimeters.	
	Stage III A	Keloids measure ≤ 2 centimeters in largest diameter; the sum of the largest diameter of all keloids measure 30.1 – 40 centimeters.
	Stage III B	Keloids measure ≤ 10 centimeters in largest diameter; at least one keloid measures 2.1 – 10 centimeters in its largest diameter; the sum of the largest diameter of all keloids measures 30.1 – 40 centimeters
	Stage III C	At least one keloid measures 10 centimeters in largest diameter; the sum of the largest diameter of all keloids measures 30.1 – 50 centimeters.
Stage IV	Presence of multiple keloidal lesions; the sum of the largest diameter of the keloids is greater than 50 centimeters.	
	Stage IV A	Keloids measure ≤ 2 centimeters in largest diameter; the sum of the largest diameter of all keloids measures greater than 50 centimeters.
	Stage IV B	Keloids measure ≤ 10 centimeters in largest diameter; at least one keloid measures 2.1 – 10 centimeters in its largest diameter. The sum of the largest diameter of all keloids measures greater than 50 centimeters.
	Stage IV C	At least one keloid measures greater than 10 centimeters in its largest diameter; the sum of the largest diameter of all keloids to measure greater than 50 centimeters

Surgical removal of neck keloids is an intervention that is commonly practiced. Surgical intervention however, defies the very basic principal in keloid formation. The injury and insult from surgery to the skin that surrounds a keloidal lesion, on its own, will undoubtedly trigger a keloidal wound-healing response that often leads to formation of a new keloid. Adjuvant treatments in form of post-operative steroid injections 20 mg/mL triamcinolone acetate at three-month intervals with daily pressure therapy can be given for two years can be beneficial.[4] or even radiation therapy are commonly incorporated in management. Every Keloid patient who undergoes surgery simply to counter the fully expected recurrence after surgery. Yet despite diligent use of all available adjuvant methods, a significant number of keloid patients undergo a second, third, or fourth surgery.[12]

CONCLUSION

Identifying the cause for the keloid, and treating it with knowledge from the literature have always proved to be beneficial. Despite of several researches the pathophysiology of Keloid formations remains to be unclear. With the advancement in technology, future will give us the best and permanent solution for this unaesthetic form of healing.

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