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Ayurvedic review article on keloid

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Abstract

Keloids are abnormal scars that cause significant emotional and physical distress in patients when inadequately treated. Keloid formation is theorized to occur as a result of an imbalance between an increased synthesis of collagen and extracellular matrix and decreased degradation of these products. Ayurveda, the Indian system of holistic medicine in undoubtedly an answer to many unresolved problems of the medical world. Shalya tantra is one among the Astanga or the eight main branches of Ayurveda and the concept of Wrana (wounds) and its healing process is an inseparable part of this branch. Keloids and hypertrophic scars are two well-known types of excessive pathologic scarring. These types differ by aesthetics, pathogenesis, histopathology, and treatment, although there are overlapping characteristics. Compared to hypertrophic scars, keloids are characterized as more clinically severe in nature, causing pruritus and pain more frequently in patients. In this article a review given regarding keloid.

Keywords: Keloid, vramgranthi, scar

Introduction

Classically, keloid scars appear slowly over months beyond the initial wound edges, while hypertrophic scars typically develop over a period of weeks and stay within the initial edges [1, 2]. From a histopathologic perspective, keloids include a random organization of Type I and Type III collagen fibers, whereas hypertrophic scars have an organized parallel pattern of Type III collagen [3, 4]. Keloids progress to form thick, firm scars that rarely heal spontaneously, unlike hypertrophic scars that can heal unaided over years. Since keloids can be distressing to patients, there has been great interest in understanding the key aspects of keloid pathogenesis. Ayurveda scholars and researchers believe that the condition of Keloid described in the contemporary medical system can be correlated with the concept of "Vianagranthi described in the distinguished classics of Ayur Acharya Vagbhata, in his most celebrated treatise Ashtanga Hridaya and Ashtanga Samgraha, has explained in detail about Vranagranthi (keloids). Acharya Sashrutha and Acharya Charaka have explained the aetiology and pathology of the same under the concept of Granth Acharya Sharangdhara, in his treatise Sharangadhara Samhitha has described of Vangrawithi while explaining the concept of Granthi Acharya Sushrutha, in his great treatise Sishrutha Samhitha has elaborately explained and exemplified 15 types of Anushastra karma (para surgical procedures) of which Kshara karma is said to be the best procedure. Kshara karma is the procedure which involves internal administration or external application of Khara a caustic, alkaline medicament obtained from the ashes of selected medicinal plants. It is said to possess qualities such as Chedhana (Excision), Bhedhana (Incision), Lelduana (Scraping) and destroy Truleshaja disorders. (disorders caused due to vitiation of all the three senses of humor, Vata, Pitta and Kapha), It is indicated in wounds associated with indurations, itching, those which are hard to clean and have raised hypertrophied granulation tissue. The procedure of external application of Ksharu called the Pratsarunerya kiharu in Ayurveda is indicated in discases such as Arahah (Juternal haemorrhoids). Whaganlara (fistula in ano). Arbuda (tumours), Baahyu Vidradhi (external abscess) Visha (Disease produced due to poisons), Dushta Vrana (ulcers), Nadi vrasa (Sinus ulcer), Charma keela (warts) and such others." Considering all the above verities explained in the celebrated classics of Ayurveda, this study that aimed at explicating and establishing the role of Ayurveda Kahama karms in the management of Vianagranthi or Keloid was designed and accomplished.

Keloid pathophysiology

Keloid formation is theorized to be the result of an imbalance of increased synthesis of collagen and ECM and decreased degradation of these products. Increased synthesis of ECM collagen is thought to be related to the over activation of keloid fibroblasts via the overexpression of inflammatory mediators—namely, TGF- β 1. Differential production of isoforms of TGF- β is proposed to be responsible for the excessive collagen production by fibroblasts seen in pathologic scarring^[5]. Overexpression of TGF- β 1 and TGF- β 2 with decreased expression of TGF- β 3 production results in increased fibroblast activity and ECM collagen formation.^[6,7] Keloid fibroblasts are increasingly sensitive to the effects of TGF- β 1 due to the receptor's upregulation^[8]. In the process of collagen remodeling, matrix metalloproteinases (MMPs) and tissue inhibitors of metalloproteinases (TIMPs) are key mediators that increase degradation and decrease degradation of ECM, respectively. TGF- β 1 has been shown to increase TIMP and decrease MMP production, resulting in reduced collagen degradation]. Other inflammatory proteins such as VEGF and PDGF have been thought to contribute to the overproduction of collagen as well. The activity of these molecules increasing fibroblast activation might be the result of activating mechano-transduction pathways, stimulated by mechanical stress at certain areas of the body, such as the sternum, shoulder, and suprapubic areas. Although discovering the cellular processes that mediate keloid formation is still an active area of research, there are a wide variety of therapies that physicians can use to limit keloid formation, progression, recurrence, and symptoms.

Discussion

Hypertrophic appearing scar tissue formation is known as Keloids. Injured skin repairs itself and forms scar tissues. During healing process the tissue formation normally forms scars on skin. When the formation of scar tissue is become abnormal or due to in unresponsive, It develops in to the hypertrophied scar formation which results in to keloid. The rate and quality of scar formation very among individuals. The alteration in this process may result in the development of chronic wound or an abnormal scar. As per charak when Dohas accumulates at one particular site part of body becomes thick and gives hard feel is granthi. Sushrut define it as vitiated dohas start pathogenesis in mansa, medadhatus along with kapha accumulates there at one site forming circular thick swelling. Vagbhata also reiterate above samprati. Vramgranthi can be co related with keloid. As per vagbhata varnganthi is not curable condition. Keloid seldom shows tendency to regress spontaneously. In addition to their variable Increase in size keloid can. become painful or pruritic causing functional defects or especially potential risk of uncontrolled growth and cosmetic nuisance.

Conclusion

Keloid is hypertrophic tissues are developed during scar formation. Also Vagbhatacharya has been described that the same pathology of in the description of Vrunaghranthi. In this literature review found that, The Causes and pathology as well as the prognosis of disease is same as per modern and Ayurveda.

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