**Efficacy of catgut as a modality of treatment in case of acne scars: A pilot study**

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**KEYWORDS**

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**Abstract**  
Acne scarring is a very common and a distressing condition presenting to a dermatologist. The treatment of acne scars is a real therapeutic challenge. No single therapy is effective and it often requires multiple modalities. The aim of the present study was to assess the efficacy of plain catgut in the tissue augmentation of acne scars. Acne scars of rolling, depressed and atrophic variants over cheeks were taken for study. Plain surgical catgut 3–0, cut into small pieces measuring 1/2–1 cm was used for tissue augmentation. A total of 15 patients were enrolled in the study. Out of 15 patients, 8 patients showed more than 75% improvement, 4 patients showed 50% improvement and 3 patients were lost to follow up.

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1. **Introduction**

Acne is one of the most prevalent conditions and can lead to scarring which in turn lead to reduced self esteem, confidence and eventually some of the patients have psychological stress. Most of the topical medications are inconvenient and associated with side effects. Lasers and other lights are an expensive affair and need huge investment. Surgical modalities have been reported to be a convenient, cheap and effective therapy, all that is required is a bit of clinical judgment and surgical skill [Rapp et al., 2004; Jacob et al., 2001; Johnson, 1986].

Catgut, commonly known as surgical gut is chiefly made of collagen derived from naturally occurring purified connective tissue of the intestinal submucosa of sheep or cattle and in this study catgut was used as a modality for the treatment of scars due to acne.

The aim of the present study was to assess the efficacy of catgut (plain) for tissue augmentation in case of acne scars.

2. **Materials and methods**

This study was a prospective case study which was conducted in the Department of Dermatology, Govt. Medical College Srinagar. In this study 15 patients were enrolled, having no active acne, no history of keloidal tendency. All the routine investigations were done before enrolling the patient and informed consent was taken from all patients. Hormonal imbalance was ruled out in all patients. The age group between 18 and 35 years were enrolled in this study. Acne scars of rolling, depressed and atrophic variants over cheeks were taken up for study. The field area was adequately draped and cleaned with spirit. Topical anesthesia using Tetralid [consisting of

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tetracaine and lidocaine combination] was applied under occlusion for 30–60 min and subcision was done using a 18 gauge needle. Plain surgical catgut 3–0, cut into small pieces measuring 1/2–1 cm was inserted into the scars using fine curved toothed forceps. All the scars were treated in the similar way i.e., with subcision followed by insertion of catgut. No topical dressings were applied. All the patients were put on oral antibiotics for 5 days and anti-inflammatory agents for 3 days. The patients were reviewed at weekly intervals. The response was noted clinically and by digital photography. The patient satisfaction rate was graded on a five point NCQA (National committee for quality assurance) scale where response is graded from poor to excellent.

3. Results

The procedure was performed in a total of 15 patients. Out of 15 patients 8 (53.33%) showed > 75% improvement (i.e., excellent).

Four patients (26.66%) showed 50% improvement (good response) and 3 patients were lost to follow up. Figs. 1 and 2

4. Discussion

Acne is one of the most prevalent conditions and can lead to scarring which in turn leads to reduced self esteem, confidence and eventually some of the patients have psychological stress. There are three main types of acne scars viz., ice pick, rolling and boxcar scars [Balighi et al., 2008; Frith and Harmon, 2006]. There are a number of therapeutic options available for acne scar removal, the disadvantage being either their ineffectiveness or their cost. The treatment options which are employed in case of acne scars consist of subcision, punch techniques (punch elevation, punch grafting and punch excision), dermabrasion and laser techniques (ablative and non-ablative laser resurfacing). Most of the topical medications are inconvenient and associated with side effects. Lasers and other light sources are an expensive affair and need huge investment. Surgical modalities have been reported to be a convenient, cheap and effective therapy, all that is required is a bit of clinical judgment and surgical skill [Jordan et al., 2000; Watson et al., 1999; Krauss, 1999]. Recent additions to

the soft tissue augmentation armamentarium have greatly increased the dermatologic surgeon’s choices of dealing with acne scars. The prominent among dermal fillers used for soft tissue augmentation include hyaluronic acid, collagen fillers and autologous fibroblasts. The disadvantage with these fillers is their high cost. So in case of poor patients one has to look at cheaper alternatives, which at the same time can give good results. Catgut, commonly known as surgical gut is chiefly made of collagen derived from naturally occurring purified connective tissue of the intestinal submucosa of sheep or cattle. It is absorbable. Catgut suture is a type of suture material that is naturally degraded by the body’s own proteolytic enzymes. Absorption is complete by 90 days, and full tensile strength remains for at least 7 days. This eventual disintegration makes it good for use in rapidly-healing tissues and in internal structures that cannot be re-accessed for suture removal. It is a novel subdermal filler which is cheap and effective as has been shown by our study which is consistent with various previous studies [Goodman, 2003].

5. Conclusion

Subcision along with catgut used as tissue augmentation is an effective adjunctive treatment modality as far as acne scars are concerned. However, further large and well controlled studies are required to be done to establish its efficacy in the treatment of acne scars.

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References