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Original Research Article

Bloodless Technique of Earlobe Repair: A Novel Technique

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ABSTRACT

Background: Earlobe repair is one of the commonest procedures done by plastic surgeons. It is often done for enlarged holes in ear lobules. Bleeding is very common in this procedure which interferes with proper visualization of operative field. Aim of our study was to know the efficacy of SAURABH GUPTA'S TECHNIQUE OF BLOODLESS EAR LOBE REPAIR©, which is done using bull dog clamps.
Materials and Methods: This was a prospective study done on 50 ear lobes repaired with the above-mentioned technique over a period of one year at a tertiary care hospital of North India. Demographic and clinical data of the patients were recorded. Also, parameters like visibility of operative field, time taken for surgery, postoperative results at three visits done at 3 days, 1week and 1 month were studied.
Results: In our study, bilateral ear lobe tear repair was done in 92.31 % cases, and majority were partial thickness tears. The operative field was found to be clear in 96 % cases with slight ooze not compromising visibility in 4% cases. Mean time taken for surgery on each side was 7.06 ± 0.61 minutes. Postoperatively, 2 patients developed localized edema, which subsided at follow-up visit done at 1 week. No postoperative complications were recorded in rest of the patients. The mean satisfaction score of patients on Likert scale was 4.64 ± 0.48.
Conclusions: In our study we found that the SAURABH GUPTA'S TECHNIQUE OF BLOODLESS EAR LOBE REPAIR© is a safe and effective procedure of ear lobe repair. It helps to achieve good hemostasis, providing good operative field, thereby reducing surgical time. The post operative outcomes in all the cases were found to be satisfactory and the level of patient satisfaction was also high.
Keywords: Bloodless Technique, Bull Dog Clamps, Ear Lobe Repair

INTRODUCTION

Surgical earlobe repair is a precise procedure that delicately restores the shape and integrity of the earlobe, providing a natural-looking earlobe. Through meticulous surgical techniques, earlobe repair effectively addresses torn, stretched, or damaged earlobes, rejuvenating their appearance and allowing for the wearing of earrings once again. But the most common problem faced by surgeons during these procedures is the intra-operative bleeding which interferes in the operative field.[1] There are controversies in using adrenaline infiltration in the ear lobule.[2] So, modification in the current techniques of surgery to achieve hemostasis is of paramount importance. The aim of this article was to evaluate the efficacy of the SAURABH GUPTA'S TECHNIQUE OF BLOODLESS EARLOBE REPAIR©. The particulars of this technique have been entered in the Copyrights Office, Government of India, with Registration number: L-107249/2021, dated 03/09/2021.

The study was conducted on 26 subjects who presented with earlobe tears and stretched piercings. The subjects underwent earlobe repair using the SAURABH GUPTA'S TECHNIQUE OF BLOODLESS EARLOBE REPAIR© using bull dog clamps, and the outcomes were evaluated based on factors such as visibility of operative field, surgical time, ease of operating, wound healing, scar formation, and patient satisfaction. The results of this study are expected to provide valuable insights into the effectiveness of the bloodless technique of earlobe repair using bull dog clamps. This technique has the potential to become a standard

approach to earlobe repair, particularly for patients with bleeding disorders or those who are prone to excessive bleeding during surgery.

MATERIALS AND METHODS

This was a prospective study conducted in a tertiary care hospital of North India. The study population included females above 18 years of age, presenting to plastic surgery OPD with split ear lobes. Out of these, all those who consented to be a part of this study and underwent SAURABH GUPTA'S TECHNIQUE OF BLOODLESS EARLOBE REPAIR© were included. However, patients with split ears due to local carcinoma excision or trauma were excluded. Also excluded were those who had tendency for keloid, or had congenital ear lobule defects.

The approval of institutional research and scientific committee as well as the ethics committee was obtained prior to the commencement of the study. Our study adhered to the tenets of Declaration of Helsinki.

All the surgeries were performed by a single surgeon under local anesthesia. The novel bloodless surgical technique of ear lobe repair that was performed is described here.

Surgical steps of SAURABH GUPTA'S TECHNIQUE OF BLOODLESS EARLOBE REPAIR© are as follows:

Written and informed consent was taken from every patient, after explaining the nature of operation and its risks. After painting and draping, skin markings of surgical site were done. Local anesthesia (2% lignocaine) was administered and a wait period of 5-7 minutes was observed. After confirming the effect of local anesthesia, split ear lobe to be operated was pinched between thumb and index finger to extravasate the blood and bull dog clamps were applied in an inverted V pattern as shown in Figure-1.

Figure-1: Inverted V pattern application of Bull dog Clamps

Skin incisions were given over the marked lines on both, the lateral and medial surface of split ear lobe. Both the opposing margins of split earlobe were made raw and de-epithelized. After our dissection was complete, we once released the clamps and brought the raw skin margins near to each other and re-applied the clamps, leaving adequate space for needle to pass through for suturing. We used prolene 6-0 suture in all the cases to oppose the skin margins (Figure-2).

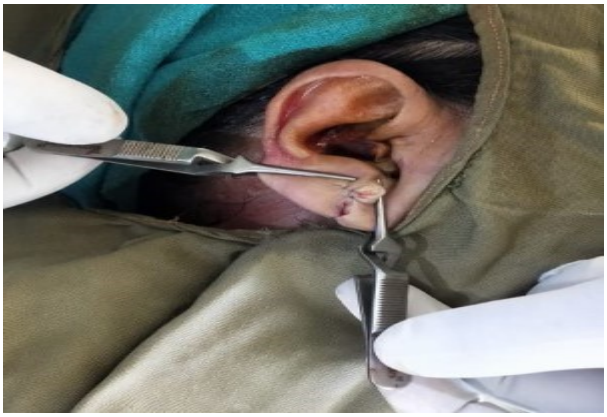

Figure-2: Skin Margins brought nearer after re-application of clamps

After completing the suturing on the lateral skin margin line, we flipped the clamps to expose the medial side of the ear lobe, which was sutured thereafter. The clamps were then released and sterile dressings were done (Figure-3).

Figure-3: Final suture Line

The patients were discharged after 2 hours of observation period. The visibility of operative field was categorized as no ooze/ slight ooze not hampering visibility/ bloody enough field to compromise visibility. Time taken for surgery was recorded (in minutes) from the incision marking to the release of clamps after suturing both medial

and lateral side of ear lobe. Postoperative regimen included oral antibiotic and analgesic for a period of 5 days. Follow-up of the patients was done at 72 hours, 7 days and 1 month. On the first follow up, the dressing was removed and local antibiotic was prescribed for application on suture line. On second follow up, suture removal was done. On the first two follow up visits, the patients were assessed for possible postoperative complications such as hematoma, wound infection, oedema and suture dehiscence. On the last follow up visit, at one month, the patient was assessed for any possible hypertrophy or keloid formation at the suture line. Also, the patients were asked to gauge their satisfaction level of surgical procedure and postoperative outcome on Likert scale ranging from 0 to 5, with 5 being fully satisfied and 0 being unsatisfied.

The data so obtained was recorded on Microsoft excel sheet and analyzed. Quantitative data was expressed as mean and percentages.

RESULTS

We studied 50 ear lobes repaired using SAURABH GUPTA'S TECHNIQUE OF BLOODLESS EARLOBE REPAIR©, in 26 patients in a span of one year. Of these 26 patients, 24 patients (92.31%) underwent bilateral earlobe repair and 2 (7.69%) underwent unilateral (right sided) ear lobe repair.

All the 26 patients studied were females, mean age being 37.68 ± 9.01 years, ranging between 23 and 63 years. All the cases in our study had earring induced split ear lobe, of which 2 had full thickness tear on one side, whereas rest others had partial thickness ear lobe tears. All these patients underwent SAURABH GUPTA'S TECHNIQUE OF BLOODLESS EAR LOBE REPAIR©. The mean time taken for surgery on each ear lobe was 7.06 ± 0.61 minutes. The operative field was found to be clear in 48 out of 50 ear lobe repairs, i.e. 96% cases, and slight ooze was present in 2 ear lobe repairs (4%). Results of post operative visit at 72 hours yielded presence of local edema in a single patient, which subsided at the second follow up visit done at 1 week. However, hematoma, wound infection and suture dehiscence were not reported in any of the surgeries. None of the patients had local hypertrophy or keloid formation at one month follow up visit. The average value of patient satisfaction on Likert scale was found to be 4.64 ± 0.48.

DISCUSSION

The study was conducted on 50 earlobes of 26 patients. The mean age of females in our study was 37.68 ± 9.01 years. This range is higher as compared to study done by Lucas Gomez et al[1] wherein the mean age of female patients was 24.5 years and in other study done by Brian L scott[2] where the mean age was 25.9 years. We did not find any predilection for right or left earlobe, in similarity with a study by Rajiv Agarwal etal.[3] In our study, the cause of split ear lobes was wearing of heavy earrings in all the patients. In a study by Khilnani et al, 96% cases of split ears were due to heavy earrings, rest were due to trauma.[4] In a study by Souza SC, 91.7 % ear lobe tears were caused by earrings and 8.3 % were caused by trauma.[5] We found that 2 patients included in the study had full thickness ear lobe tear on one side with other side partial thickness tear. The rest of the patients had partial thickness tear. Khilnani et al reported partial cleft in 54.8%, total cleft in 37.1% ears and multiple clefts in 7.92% ears.[4] The mean time taken for surgery on each ear lobe was 7.06 ± 0.61 minutes. A study on auricular lobuloplasty was done by Mallineni et al wherein the time taken for the surgery on each side was 15-20 minutes.[6] This could be due to the difference in the baseline characteristics under study in both the studies and also because of unique bloodless technique adopted in our cases. Patient satisfaction in the same study was assessed using Visual analogue scale, ranging between 0-10, and they reported 96% patients with scores fantastic (8-10) and 4% patients with scores really good (6-8). In our study, the patient satisfaction on Likert scale was found to be 4.64 ± 0.48 (scale 0-5). The operative field was found to be clear in 96% cases, and slight ooze was present in 4%. This was due to the use of bull dog clamps which helped in achieving good hemostasis, thereby reducing the surgical time as well. Hematoma, wound infection, suture dehiscence, local hypertrophy or keloid formation were not reported in any of the surgeries. None of the patients required a re-surgery.

The surgical technique used in earlobe repair depends on the type and severity of the earlobe tear. Several techniques can be used to repair earlobe deformities which include simple closure, flap reconstruction, and wedge excision. The most common technique is a simple closure, which involves removing the split margins and suturing the edges of the tear together.[7] This technique is used for small and uncomplicated earlobe tears. For larger or more complex earlobe tears, a Z-plasty or a V-Y advancement flap may be used. A Z-plasty involves creating triangular flaps of tissue that are then rotated to reposition the edges of the earlobe tear.[8] Earring technique uses posterior margin flap to make a hole for ear ring in a single stage.[1] Niamtu suggested that the wound lips should be closed after the scar excision in small clefts that are in the upper two-thirds part of the auricular lobule and that the closing procedure should be performed after the partial clefts are converted into complete clefts in the lower one-third.[9] Zoltie reported performing the excision leaving the apical part of the cleft intact, which would create a rectangular flap on the anterior and posterior edges of the cleft.[10] The success of each of these techniques depends upon several factors, like size and location of deformity and the patients skin type. Simple closure generally has a high success rate, with minimal scarring and a quick recovery time. Flap reconstructions can

produce excellent results, but the procedure is more complex and may require an extended recovery period. Wedge resection is also highly successful and can produce a more natural-looking earlobe, but it may result in visible scar. The results of our study demonstrate that the SAURABH GUPTA'S TECHNIQUE OF BLOODLESS EARLOBE REPAIR© is an effective and safe approach. All 26 subjects in this study achieved successful wound healing with minimal scarring and high levels of patient satisfaction. It has several advantages over traditional suture techniques. One major advantage is the reduced risk of bleeding, particularly in patients with bleeding disorders or those taking blood-thinning medications. This technique also allows the surgeon to achieve a good visible operative field, allowing for precise suturing and reducing the risk of complications such as hematoma formation, thereby helping to achieve optimal outcomes. The use of bull dog clamps also reduces the need for electrocautery, which can cause tissue damage and delay healing. Moreover, this technique employs use of bull dog clamps which are easily available, making this technique a feasible option for application on a larger scale.

Although, the study has several limitations that must be acknowledged. Firstly, the sample size was relatively small, which limits the generalizability of the results. Secondly, the study did not include a control group, which makes it difficult to compare the outcomes of the bloodless technique with traditional suture techniques. Despite these limitations, the results of this study provide valuable insights into the potential benefits of the bloodless technique of earlobe repair using bull dog clamps. This technique has the potential to become a standard approach to earlobe repair, particularly for patients with bleeding disorders or those who are prone to excessive bleeding during surgery. Future studies with larger sample sizes, randomized controlled trials, and longer-term follow-up are needed to further evaluate the effectiveness and safety of this technique and to develop new surgical techniques and technologies for earlobe repair and other plastic and reconstructive procedures.

CONCLUSIONS

The SAURABH GUPTA'S TECHNIQUE OF BLOODLESS EARLOBE REPAIR© is a safe and effective method of ear lobe repair as it helps in achieving good hemostasis, thereby reducing surgical time and resulting in favorable postoperative outcomes.

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