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Original Research Article

Gynecomastia surgery under tumescent anaesthesia v/s general anaesthesia

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Abstract

Background: Gynecomastia is a common cosmetic problem encountered in Plastic Surgery practice. The surgery for gynecomastia is becoming popular owing to less invasive procedures, advances in anaesthesia and day care nature of these procedures. These procedures are performed under local anaesthesia with sedation, tumescent anaesthesia and general anaesthesia.
Methods: Authors studied 20 cases operated by a single surgeon; those were operated from January 2021 to December 2021 retrospectively. Ten of them were operated under tumescent anaesthesia and another ten under general anaesthesia. They were analyzed for post-operative aesthetic outcome, completeness of glandular excision, intra-operative comfort.
Results: All the ten patients had complete glandular excision and there was no contour irregularity and all of them preferred to undergo further procedures under general anaesthesia. Among the ten patients who had undergone surgery under tumescent anaesthesia, one had a small residual gland; another one had minor surface irregularity and five of them preferred to not to undergo further surgeries under tumescent anaesthesia in future as they felt some kind of discomfort during the procedure.
Conclusion: Our study shows that our patients preferred to undergo gynecomastia surgery under general anaesthesia due to the increasing safety and comfort. The authors also feel it's more comfortable to do these surgeries under general anaesthesia.
Level of evidence: 4.

Keywords: Tumescent anaesthesia, general anaesthesia, orange peel excision, liposuction, gynecomastia

Introduction

Gynecomastia is referred to enlargement of male breast. Various causations have been thought to have been responsible and the causation is not found in large majority of patients. There is an increase in the incidence of gynecomastia in recent times. The surgery for gynecomastia is one of the common procedures performed by plastic surgeons. The surgery has progressed from open surgical excision with long peri-areolar incision extending to chest to minimally invasive procedures; drain to no drain; open surgery to ultrasound assisted and laser assisted liposuction.
The increasing popularity of these procedures is partly due to improvements in surgical

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techniques and partly due advances in anaesthesia. These procedures are commonly performed under general anaesthesia, local anaesthesia with sedation, and tumescent anaesthesia.
Here the authors present their experience of gynecomastia surgeries under general anaesthesia and tumescent anaesthesia and effect on surgical outcome.

Methods

Twenty gynecomastia surgeries that were performed between January 2021 and December 2021 were analyzed retrospectively. The patients ranged from 16 years to 38 years. The grades of gynecomastia ranged from grade 1 to grade 3. Ten of the patients operated under general anaesthesia and other ten who were operated under tumescent anaesthesia were analyzed.
Group 1 patients who were operated under general anaesthesia had LMA, nitrous oxide and intravenous infusion of propofol. The operative site was injected with tumescent solution prepared by adding 20ml of 2% lignocaine and 1ml of 1 in 1000 adrenaline to one litre of ringer lactate.
In the tumescent group the same tumescent solution was injected. No sedation was given in this group. The quantity of tumescent solution injected did not vary in both groups. Both the group patients were given 200 mg of diclofenac sodium skin patches at the end of surgical procedure for post-operative analgesia.

Surgical procedure: Suction assisted liposuction was performed in both groups through infra-areolar incision. Glandular excision was performed through infra-areolar incision by orange peel excision technique. All the patients were operated on day care basis. All of them were given pressure garments post operatively continuously for 10 days and intermittently for 3 months.
The patients were assessed post operatively for vomiting, any residual gland, contour irregularities and post-operative comfort and were asked if they would like to undergo the similar procedure under same method of anaesthesia.

Results

All the patients were discharged on the same day in both groups. None required overnight hospital stay in both the groups. There was no vomiting or drowsiness in either group. There was no residual gland or contour irregularities in general anaesthesia group. There was a small residual gland in one patient and minor surface irregularity in another patient in tumescent group. The patients complained of some discomfort in tumescent group while none had such complaint in general anaesthesia group.
On post-operative enquiry all of the general anaesthesia patients said they would choose same anaesthesia for any further procedure if need be. Five of the tumescent group patients chose not to undergo further procedure under tumescent anesthesia.

Discussion

Gynecomastia is a common cosmetic problem among young males. The surgical procedures for gynecomastia are becoming increasingly popular owing to their minimally invasive nature, safety of the procedures, advances in anaesthesia techniques, relatively pain free nature of these surgeries, high patient satisfaction rates, day care nature and affordability.
Gynecomastia surgeries could be only liposuction or only glandular excision or combination of both depending upon the nature of gynecomastia. Liposuction could be syringe liposuction,

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SAL (suction assisted liposuction), Laser liposuction, Ultrasound Assisted Liposuction etc. The glandular excision is performed either by peri-areolar, intra-areolar, trans-nipple or infra-mammary approach generally.

The authors prefer infra-areolar approach for glandular excision by orange peel technique [1] and infra-axillary approach for liposculpture [2, 3] and same was carried out in both the groups. However, ten of the patients underwent the above procedure under general anaesthesia with use of LMA, nitrous oxide as inhalation agent, and IV propofol for maintenance. Other ten of them had undergone surgery under tumescent anaesthesia only and no sedation was given. The post-operative follow up on post-operative day 10 showed minor residual gland in one of the patients and minor contour abnormality in another in tumescent group. Five of them admitted that they had some discomfort during the procedure and didn't want tumescent anaesthesia alone in future.

The published literature [4, 5, 6, 7 & 8] shows that tumescent anaesthesia is preferred over general anaesthesia, as it reduces the cost of surgery and hospital stay. Our series of these cases showed us that our patients prefer general anaesthesia over tumescent anaesthesia. There was no change in hospital stay, no increase in complications or cost to the patient under general anaesthesia group.

The cost of procedure might be variable in any other hospital depending upon the hospital policy. General anaesthesia in these day care procedures with an experienced anaesthetist is relatively safe and the comfort to the patients especially ones with anxiety. The general anaesthesia is more comfortable to the patients and surgeon in fibrotic glands in author's experience.

We observed no residual gland and better contour and also better patient acceptability of general anaesthesia over tumescent in our retrospective, observational study. We didn't find any additional complications or side effects postoperatively in GA group.

Conclusion

Our study shows that our patients preferred to undergo gynecomastia surgery under general anaesthesia due to the increasing safety and comfort. The authors also feel it's more comfortable to do these surgeries under general anaesthesia.

Disclosure

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References

1. Shirol SS. Orange peel excision of gland: a novel surgical technique for treatment of gynecomastia. Annals of plastic surgery. 2016 Dec;77(6):615-9.
2. Shirol SS, Vaidyanathan R, Ratkal J. Incisão periareolar em zigue-zague como abordagem cirúrgica para o tratamento da ginecomastia. Rev. bras. cir. Plást, 2018, 143-4.
3. Shirol SS. Glandular Liposculpture in the Treatment of Gynecomastia. Aesthetic Plastic Surgery. 2018 Oct;42(5):14-36.
4. Mageed MA. Surgical treatment for moderate and large-sized gynecomastia. Egypt J Plast

Reconstr Surg. 2007 Jan;31(31):45-55.

5. Venkataram J. Tumescent liposuction: a review. Journal of cutaneous and aesthetic surgery. 2008 Jul;1(2):49.
6. Shah FH. Outcomes of tumescent liposuction for gynecomastia Sheikh Muhammad Arshad, Muhammad Waqas, Naeem Shahid. Rawal Medical Journal, 2018 Oct, 43(4).
7. Dario M, Alessandro I. Prospective analysis and comparison of periareolar excision (delivery) and pull-through technique for the treatment of gynecomastia. Aesthetic Plastic Surgery. 2020 Jun;44(3):1089-90.
8. Mohan A, Rangwala M, Rajendran N. Use of Tumescent Anesthesia in Surgical Excision of Gynecomastia. Surgical Innovation. 2022 Feb;29(1):22-6.