



TRADITIONAL SCROTAL SUPPORT AFTER INGUINO SCROTAL HERNIA REPAIR – A HISTORICAL RITUAL OR A SCIENTIFIC MYTH ???

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ABSTRACT

Background: Scrotal hematoma and edema following an inguinoscrotal hernia surgery is believed to be a common scenario and hence the routine use of scrotal support to reduce the incidence of the hematoma has been a common surgical practice in India. The true incidences of the scrotal edema after these surgeries are not scientifically reported.

Aim of the study:

- 1) To evaluate the efficacy and clinical usage of scrotal support in patients undergoing elective inguinoscrotal surgery in our surgical unit.
- 2) To measure the true incidences of scrotal hematoma and edema in our surgical unit in a tertiary teaching referral centre.

Materials and Methods: A prospective study was performed over a period of one year (March 2016 – March 2017). The study population were divided into two groups, Group-A with simple V shaped under garments and Group-B with conventional scrotal support (coconut bandage). All the surgeries were performed by two surgeons in one surgical unit. The study included all the inguinal hernias except bubonocoele, paediatric hernias and recurrent hernias which were excluded from the study. The post operative findings were recorded individually by the surgeons and studied.

Results: Total numbers of 156 inguinoscrotal hernia surgeries were performed. Of which, 126 were included in our prospective study. The rest of the cases were excluded based on the exclusion criteria. Of the 126 cases, 66 cases were in Group A and 60 cases were in Group B. All are male patients with the age ranges from 35 – 75 years (Average age 55). There were no significant co-morbidities. All the cases were funicular and complete indirect inguinal hernias. There were no femoral hernias. In Group A, 3 patients (3/66) i.e., 4.5% developed scrotal hematoma and edema and in Group B, 6 patients (6/60) i.e., 10% developed similar findings. None of the patients in Group A needed surgical intervention, whereas one patient (1/6) i.e., 1.5% needed surgical intervention. In group B patients, 10 patients (10/60) i.e., 16.6% developed penile edema and 30 patients (30/60) i.e., 50% complained of scrotal discomfort.

Conclusion: Our study has shown that routine use of conventional scrotal support should be avoided as it has not reduced the incidences of scrotal hematoma and edema.

KEYWORDS :

II. INTRODUCTION

Inguinal hernia repair remains one of the common general surgical procedures and is considered to be an acceptable method of treatment for inguinal hernias^[1]. Inguinal hernia repair has various possible complications which include wound infection, bleeding resulting in scrotal hematoma, scrotal edema and ilioinguinal nerve damage^[2]. Recurrence is the other important complication which accounts for 3.8% at 2 years and 4.9% at 4 years^[3]. Of these, scrotal edema and scrotal hematoma carries significant morbidity and hence various types of scrotal support have been used to prevent these complications. Various types of scrotal supports are in use and it includes conventional coconut bandage (sterilized gauze bandage), face mask and scrotal hitching^{[3],[4],[5]}. Every technique has its own limitations and advantages. With recent advances in surgical techniques and equipments, the post operative complications can be reduced to a greater extent but cannot be completely avoided^[12].

The aim of this study was to compare the occurrence of scrotal edema and hematoma in two divided groups. Group-A patients with simple V shaped under garments and Group-B patients with conventional scrotal support (Coconut bandage).

III. PATIENTS AND METHOD

Patients

A prospective study was performed over a period of one year (March 2016 – March 2017). The study population were divided into two groups; A and B. Group-A without conventional scrotal support but

with simple V shaped under garments wore upto the level of umbilicus and Group-B with conventional scrotal support (coconut bandage). All are male patients with the age ranging from 35 – 75 years (Average age - 55). The study included all the inguinal hernias except bubonocoele, paediatric hernias, recurrent hernias and hydrocele which were excluded from the study.

Surgical teams & study sites

Surgeries were performed in the department of General surgery in Chennai Medical College Hospital and Research Centre by two surgeons in one surgical unit.

Operative Techniques

The anterior tension-free repair, as defined by Lichtenstein et al. [1] was performed using 6 * 11 cm polypropylene mesh.

End points

The primary end point of the study was to measure the occurrence of scrotal edema and swelling. The secondary end points were to measure post operative pain, wound infection and bleeding.

Ethical consideration

Written and informed consent were obtained from all the patients before the day of surgery. The steps of both operative interferences were explained to all patients. The study was approved by the local ethics committee.

Statistical analysis:

The statistical tests were run on a compatible personal computer using the Statistical Package for Social Scientists (SPSS) for windows 15.

III. RESULTS

The age wise distribution of the study population is shown in (Table 1). Age ranged between 35 and 75 years with the mean age as 41.6 years.

Table 1. Age wise distribution of the study population in both groups

Group	Age < 50	Age > 50
	35 - 50	51 - 75
A	n = 46	n = 20
B	n = 44	n = 16

Regarding the scrotal edema, the authors used the proposed graded scrotal edema system i.e. mild, moderate and severe scrotal edema as used in various other studies. Table 2 shows the distribution of patients as regard to grades of scrotal edema.

Table 2. Distribution of patients regarding grades of scrotal edema in both groups

Group	Mild	Moderate	Severe
A (n = 3)	2	1	-
B (n = 6)	2	3	1

In the present study, we observed that in Group A, 3 patients (3/66) i.e., 4.5% developed scrotal hematoma and edema and in Group B, 6 patients (6/60) i.e., 10% developed similar findings as shown in Table 3. None of the patients in Group A needed surgical intervention, whereas one patient (1/6) i.e., 1.5% needed surgical intervention. In group B patients, 8 patients (8/60) i.e., 13.3% developed partial penile edema and 20 patients (20/60) i.e., 33% (one-third) complained of mild scrotal discomfort.

Table 3. Occurrence of scrotal edema in both the groups.

Group	Scrotal edema +	No scrotal edema
A (n = 66)	3 (4.5%)	63 (95.5%)
B (n = 60)	6 (10%)	54 (90%)

The occurrence of scrotal edema in Group B patients is higher when compared with the Group A patients.

P value corresponds to 1.41

IV. DISCUSSION

Inguinal hernia is the commonest of all of the hernias and operative repair is the only acceptable method of treatment for inguinal hernia^[2]. This is considered to be a common operation and the operative procedure of choice for young training surgeons. As with any other surgical condition, hernia repair is also associated with various possible complications such as infection, bleeding and scrotal edema and hematoma and ilioinguinal nerve damage.

Penoscrotal haematoma, one of the complications, is a very well documented complication following inguinal hernia repair, however, massive penoscrotal hematoma requiring surgical intervention is very rare^{[2],[5],[6]}. Most of the complications are of mild to moderate degree and require only conservative line of management. Recent technical advances in surgical field has definitely reduced the occurrence of such complications but it does not prove to be nil^{[1],[7]}. Most of the times, these complications are diagnosed clinically. In doubtful cases, ultrasound evaluation of the penoscrotal hematoma or swelling is a useful guide to confirm the diagnosis^[7]. Massive penoscrotal hematoma is not uncommon in patients with bleeding disorders such as hemophilia where trivial trauma can trigger severe bleeding in the scrotum^[9].

Purpose of scrotal support is to avoid stretching of spermatic cord and its vessels and testis by antigravity suspension and also

compressing the scrotal layers to decrease the incidence of hematoma and edema of the scrotum^[4]. This can be brought by the use of simple V shaped under garments and there is no need for the conventional scrotal support in the form of coconut bandage as evidenced by our study.

Different techniques have been employed in practice such as scrotal support and the use of scrotal elevator of different types^[10]. Unless properly managed, both scrotal hematoma and edema can lead to significant morbidity for the patient^[11]. Most of the time conventional coconut bandage is used but it is quiet cumbersome, dislodge easily and a learning curve is necessary for a proper technique.

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