

Original article

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STUDY OF POST OPERATIVE SCROTAL OEDEMA FOLLOWING OPEN INGUINAL HERNIA SURGERY – CAUSATIVE FACTORS AND ITS PREVENTION

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Abstract:

Key words : SCROTAL OEDEMA , OPEN INGUINAL HERNIA SURGERY ,PREVENTION

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Aims & Objectives:

Our objective is to study the association between open Inguinal Hernioplasty and Post-operative Scrotal Edema and whether Specific Manipulation can be done to prevent this complication.

1. to determine the utility of scrotal sonography in the evaluation of patients with scrotal swelling following inguinal hernia repair.
2. to see if the scrotal edema occurrence is significant and warrants immediate intervention
3. to rule out scrotal hematoma or testicular atrophy in patients with scrotal edema and pain.

Methodology

a prospective observational study involving 50 patients according to the following criteria from the department of surgery in lg hospital maninagar ahmedabad

Inclusion Criteria : all planned open hernioplasty patients

Exclusion Criteria : emergency operated for any obstructed/strangulated hernia/recurrent inguinal hernia

CONCLUSION

scrotal edema following open hernioplasty may not be burden but has a huge impact on the aesthetic as well as overall satisfaction of the patient after the elective surgery. the data analysed and the care taken during dissection of the sac and precautions taken to produce minimal injury to the surrounding venules and cord structures can not suffice the purpose. our conclusion is: not all the scrotal edema require further intervention or investigation and methods on reduction in incidence of edema should be encouraged by intraoperative caution.

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introduction :

“some 400,000 inguinal hernias are repaired, and yet even the

biggest series of reports of pain after inguino-femoral hernia repair

from the United States are of only 17 or 23 cases. Therefore, this must be a remote hazard. . .
.”1 |

inguinal hernia repair is one of the most frequently performed operations. Next to conventional techniques, open and laparoscopic tension-free methods using mesh implants to reinforce the abdominal wall are increasingly carried out, and are even becoming the standard procedures in many countries.(2,3) Scrotal swelling and pain are frequently encountered in clinical practice. Although in some patients, history and physical examination are adequate to reach a diagnosis, yet in a large percentage of patients, additional studies are required for complete evaluation of their symptoms. The clinical examination is often misleading or non-specific.3

Clinical assessment

Relevant history was taken about clinical symptoms and the presenting complaints. Bimanual palpation was performed in all cases in order to determine the status of scrotal contents. Fluctuation, reducibility and transillumination tests were done as and when required.

- ▶ Inguinal hernia is the commonest of all the hernias. Operative repair is the only acceptable method for treatment of inguinal hernia. Open tension-free techniques of hernia repair using synthetic meshes are well-accepted practice with an excellent patient comfort and a low recurrence rate. This is considered the most common operation and the operative procedure of choice for young training surgeons. As with any other surgical condition, hernia repair is also associated with different possible complications such as urinary retention, infection, bleeding, recurrence, scrotal swelling and nerve damage.^{4,6}
- ▶ Post Operative scrotal oedema is one of the most common complication in open Hernioplasty surgery and usually responds to a conservative approach in the form of rest and scrotal support. Clinical diagnosis is obvious and does not necessarily require ultrasound. In cases of huge scrotal haematoma or unresolving haematoma, surgical drainage may be necessary. There are many theories in literature explaining possible reasons for that : ranging from minor traumatic disruption of blood vessels, which ultimately results into edema with pain to removal of large hernia causing empty cavity in scrotum which gets filled by exudative fluids. ⁵

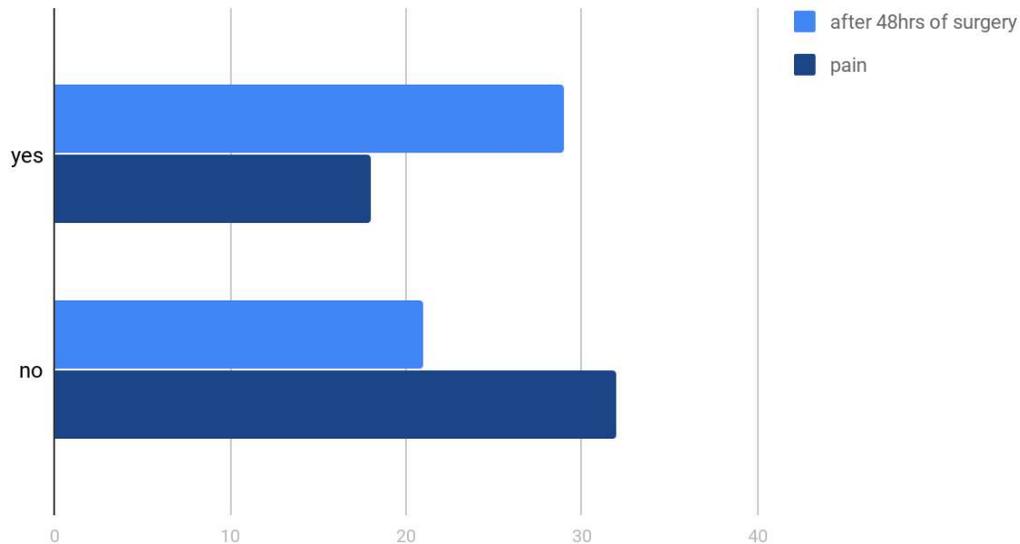
RESULTS

All patients(50 patients) were male and the median age was 52.5 years (42 to 72 y) . The results were statistically insignificant according to the age ($P>0.05$).

With 58% (29 patients)of patients developing scrotal edema in 48hr of post operative period more than half(18 patients) of the patients were relieved from the symptoms within two days

that is post op day 4.

Scrotal edema



18 patients complained of pain along with scrotal edema and were evaluated further by ultrasonography showing collection of fluid but eventually they were relieved of the symptoms by 6th postoperative day.

rest of the patients (11 patients) were given scrotal support on the post operative day 4 and were symptom free on follow up day 7th.

DISCUSSION

There are very few data assessing the impact of inguinal hernia repair technique on the testes, despite the potential physical impingement of a hernia on the testicular vascular pedicle.(7,8) Swelling after inguinal hernia surgery often occurs where the incision is as well as below, often extending to the groin and even the scrotum and testicles. Because gravity pulls down on the normal fluid that the body creates, many people feel like their testicles are swollen and sore after hernia surgery. Since normal swelling after hernia surgery is part of the healing process, the body can take three to six months to get rid of the swelling. In patients with very large inguinal hernia that extend down to the scrotum, sometimes the swelling may be there for longer than six months.

Sometimes, a few drops of blood can change the color of the skin to black and blue after surgery. Similar to swelling, this can occur around the incision, as well as lower down in the groin in inguinal hernia surgery. Gravity can pull the drops of blood down to the penis and

scrotum, often times turning them black and blue. Black and blue discoloration is normal after hernia surgery and will resolve much faster than the swelling after hernia surgery. Black and blue discoloration will often turn into yellow discoloration and fade before most people's appointment after surgery.

Sometimes the swelling is soft and does not seem to go away after surgery. Again, this is most likely due to the body's normal fluid pooling in the space the hernia used to be. If this swelling persists longer than three to six months after surgery, it should be re-evaluated by the surgical team to determine if hernia has recurred. Unfortunately, x-rays, CT scans and MRI's are often not sensitive enough immediately after surgery to tell the difference between the body's normal fluid and a possible problem. Time is the only thing that helps tell us if there is a problem or not in these situations.

Extensive dissection of the spermatic cord can lead to injury to the testicular artery and the delicate veins of the pampiniform plexus.(9)

Incidence of scrotal haematoma and oedema are very high in case of complete sac(Inguinoscrotal) hernia cases because sac has to separate from whole of spermatic cord starting from base of scrotum upto internal ring.(10)

- ▶ Larger the sac, greater the dissection has to be done for skeletonization of cord with separation of cremasteric muscles with leads to oozing and this has the main cause for post operative scrotal oedema .
- ▶ Even larger cavity following surgery will leading to pooling of serous collection which will eventually present as scrotal oedema
- ▶ Swelling is more in unsupported scrotum in cases of large hernia repairs due to hanging and stretching which result in increased leakage of veinules and of lymphatics.

CONCLUSION

scrotal edema following open hernioplasty may not be burden but has a huge impact on the aesthetic as well as overall satisfaction of the patient after the elective surgery. the data analysed and the care taken during dissection of the sac and precautions taken to produce minimal injury to the surrounding venules and cord structures can not suffice the purpose. our conclusion is: not all the scrotal edema require further intervention or investigation and methods on reduction in incidence of edema should be encouraged by intraoperative caution.

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