

Experience in the Use of Tantalum Gauze Mesh in the Repair of Incisional and Recurrent Inguinal Hernia

MAHMOOD AHMAD
Department of Surgery

JOHN HADFIELD
Stoke Mandeville Hospital, Aylesbury, England.

SUMMARY:

A series of 101 patients, 45 of whom had recurrent inguinal herniae and the remaining 56 incisional herniae, were treated by a repair using tantalum gauze mesh over a 12-year period. In our hands the repair gave a lasting and satisfactory result. Complications and special precautions are fully discussed.

When a surgeon is asked to repair an incisional hernia or a recurrent inguinal hernia, while accepting the challenge he may have reasonable doubts as to the lasting qualities of his method of repair. Everyone has their favourite operation and there is no doubt under these circumstances that the aphorism that the best operation is the one that the surgeon can do best holds true in this case.

Elective surgery is required for incisional hernia when the bulge is large, unsightly and uncontrollable by a belt and when the mechanics of the abdominal wall are seriously deranged (Fig. 1). Emergency surgery is required for obstruction and strangulation through a small, narrow-necked defect in the scar. This paper deals with those patients needing elective surgery.

A recurrent inguinal hernia in many instances can be repaired by an adequate second operation. There are instances, however, when the anatomy and layers of the inguinal canal are so lost and deformed as to make further repair using them virtually impossible.

Material and Methods

This paper reports the experience of a surgeon and his assistants in treating both these circumstances over a 12-years period. The follow up evaluation of the patients was carried out by one of us (Mahmood Ahmad), during this term of office as Surgical Registrar at Stoke Mandeville Hospital.

The number of patients is given in parentheses against the site of hernia as follows: midline epigastric hernia following midline incision (17); midline subumbilical hernia following suprapubic incisions (23); recurrence following previous repairs to inguinal hernia (45); following Kocher's incision: hernia in right hypochondrium (10); pararectus defect (6); total 101.

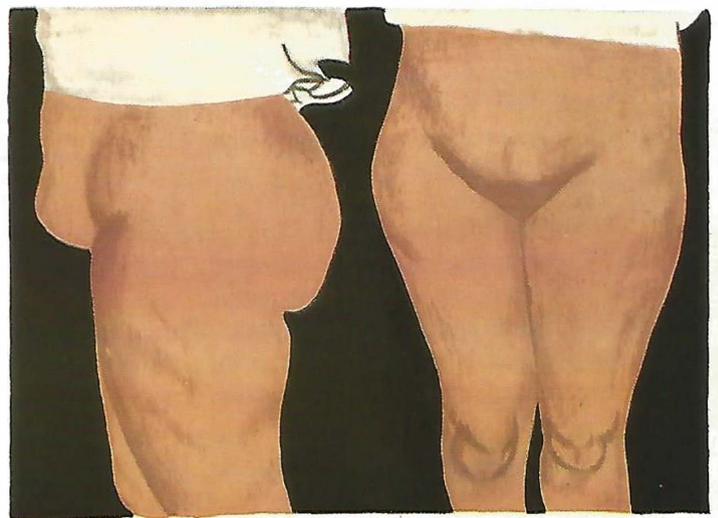


Fig. 1 Incisional hernia, uncontrollable by a belt.

TABLE - I.

Site of Hernia.	Number of Patients
Midline epigastric hernia following midline incision	17
Midline subumbilical following suprapubic incision.	23
Recurrence following previous repairs of inguinal hernia.	45
Following Kocher's incision hernia in right hypochondrium.	10
Pararectus defect.	06
Total:-	101

For the treatment of an incisional hernia our method was as follows. First an incision was made through the skin over the hernia and this was reflected around the bulge until a margin of 2 inches of normal abdominal wall was exposed lateral to it in all directions. The bulge was then everted to form a 'keel' by several lines of thread sutures. A piece of tantalum gauze sufficient to cover the bulge and overlapping the edges by 1 - 2 cm on to the normal abdominal wall was cut out and the edges all the way around everted by finger pressure to form a small ridge which holds the anchoring sutures without tearing. The edges of the mesh were fixed to the abdominal wall by black thread or silk sutures. A further one or two lines of sutures were put through the mesh on to the abdominal wall. This fixes the whole thing firmly to the abdominal wall so that it quickly becomes part of it (Fig. 2). The whole wound was sprayed with an antibiotic aerosol spray or washed with an antibiotic solution. The wound was then closed with silk and wound suction maintained by polythene tubes attached to a redivac drain.

Recurrent Inguinal Hernia. For recurrent inguinal hernia a similar technique is employed. The external oblique is opened, the cord is first defined, then the sac, which is excised and the neck ligated. The remain of the posterior wall is strengthened with thread sutures and the posterior wall covered by a tantalum gauze implant. Topical antibiotics are used. The external oblique is closed carefully as a complete layer as it is possible and the skin closed without drainage. Our experience with this technique of repair of recurrent inguinal hernia has been complication free and results have stood the test of time.

Results

In our series the following problems have arisen:

These repairs quite rapidly become a firm and integral part of the abdominal wall. In females, especially with a subumbilical repair, further pregnancies should be avoided. In these cases we advise tubal ligation at the time of operation.

In two patients where the skin over the wound was atrophic and healing incomplete, we have used skin grafts successfully to cover the defects.

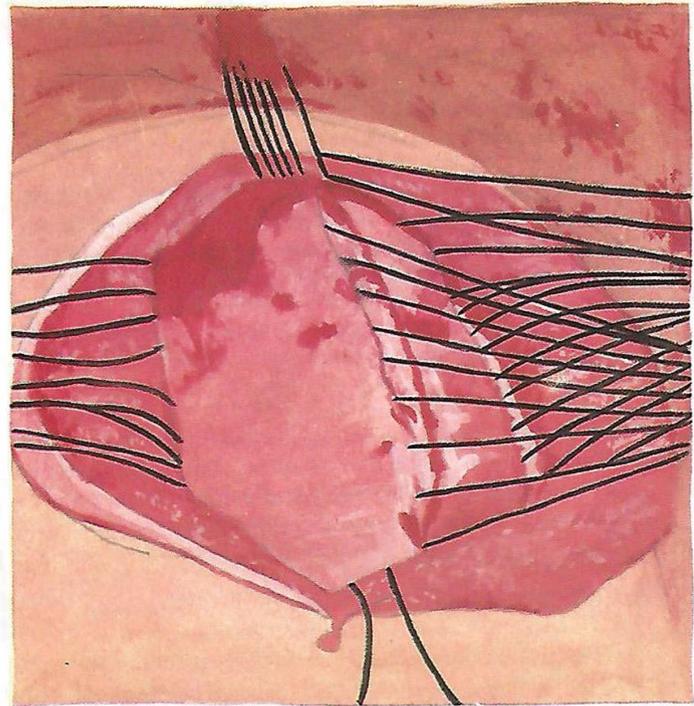


Fig. 2 Tantalum gauze with anchrin sutures.

DISCUSSION

In both these instances an effort to repair using local tissues only is out of question. They are hopelessly stretched and fragmented, the normal anatomy is lost and the remaining normal muscles cannot function satisfactorily while the defect persists.

Implants of skin, nylon, synthetic meshes and stainless-steel cloth have been used by other surgeons. Skin graft implants are prone to infection and dermoid cyst formation. The other synthetic cloths and meshes give serious trouble if they should become infected. Our experience with tantalum gauze has been relatively complication-free and we have found it easy to work with.

The original concept of this method of treatment was described by McGavin (1909). He, however, used a coarse wire mesh for his repair.

Tantalum Gauze mesh in Hernia repair.

Sepsis to date has fortunately not been a problem. In one patient, however, where this did occur resolution took place with simple drainage and antibiotic therapy.

At one time we fixed the wire mesh with wire sutures. We found these difficult to work with as they often became loose and break. since we have used thread or silk sutures we have not had this problem.

The repair is firm and strong, and the muscles move

well and normally around it. The area of repair is of course, immobile.

REFERENCES

1. Cokkinis, A.J., Bromwich, M. *Brit. Med. J.*, 1954; 4 : 54-7.
2. Maingot, R.H., *Med. Press*, 1954; 232 : 134
3. Maingot R.H. In: Smith R,ed. *Progress in Clinical Surgery*, 1961.
4. Maingot R.H. *Abdominal Operations* Vol.2 5th ex. London: butterworths, 1961; 1265-75.
5. Magavin L. *Br Med J.* 1909;2: 357-60.