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Hernia surgery for the third millennium. Does classical herniorraphy still play a role?

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Abstract

The steadily increasing use of prosthetic grafts in hernia repairs can be said to play down the classical approach for repairing groin hernia. We retrospectively report on 894 patients operated on for groin hernia at our out-patient surgery clinic from June 1992 to May 1998. Herniorraphy was widely performed (96.3%). The recurrence rate was of 1.6% (overall). For patients younger than 45 yr with no systemic concurrent disease, as few as 0.1% relapsed after a 58-month average follow-up. According to our results, ambulatory herniorraphy can provide an excellent degree of efficiency in selected young patients suffering from indirect unilateral primary groin hernia. Likewise, we regard the prosthetic repair as the gold standard technique in those patients with a weakened posterior inguinal wall.

Keywords: Groin hernia; Tension-free mesh repair; Herniorraphy; Recurrence; Day case; Hernia repair

1. Introduction

Given the excellent results the prosthetic materials have recently offered in terms of complications and rate of recurrence, no wonder the classical approach to hernia repair has given way to the former [1,2].

In order to pinpoint the most suitable indications for these techniques, we have reviewed our long-term results in retrospect to dispel whether the classical techniques can still play a role.

2. Patients and methods

We report on 894 patients operated on for groin hernia at our Day Surgery Unit (DSU) from June 1992 to May 1998. For the patient to be treated as a day case, ASA I–II status and a suitable social and family environment were required. Age was not a benchmark for exclusion, nor was the hernia size.

We have collected data with regard to the past medical records, the clinical picture and type of hernia (according to Nyhus' classification), surgical procedures and anaesthetic techniques. Complications both in the short- and long-term have also been analyzed. We have sifted through several standard clinical indications of quality for ambulatory surgery.

Once the patients undergo operation, they remain in the DSU up to 6 h, after which we would consider their stay as an unplanned delay in discharge. Decision with regard to the anaesthetic and surgical options were left to the physician in charge. Antibiotic prophylaxis was only indicated when the use of prosthetic material was foreseeable (amoxicillin + clavulanic acid intravenously 2 g, single dose).

Once the patients were discharged, our Home Care Unit (HCU) specially trained and skilled in postoperative care followed their recovery until skin staples were removed, so that complications were fully reported and treated and patients could be sent back to hospital if needed.

Regarding the follow-up, the patients were visited and appraised at the outpatient clinic within the first month, and then once yearly.

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3. Results

The mean age of our series was 40.52 yr (6–76), the bulk of whom were men (88.48%). Clinical picture included groin lump in 91.8% of patients (53.47% on the right side and 46.53% to the left), as well as local pain in 25.84% of patients. Some 28% had suffered from at least one episode of incarceration, and 13.26% had undergone previous hernia surgery to the opposite side.

According to Nyhus' classification, type I (indirect inguinal hernia with normal internal abdominal ring) accounted for 59.73% (534 patients); type II (indirect inguinal hernia with internal abdominal ring dilated, but an intact posterior abdominal wall) accounted for 28.07% (251 patients). As for type III (posterior wall defects whether with an associated large indirect hernia or not), it represented 12.20% of patients (109). Those patients aged more than 40 yr or obese were much more likely to present with type III hernia.

With regard to anaesthetic techniques, general anesthesia, was the procedure of choice upon setting up the pilot study and so it remained during the first year of the DSU functioning as an independent unit. More recently, it has given way to spinal and local techniques, the latter accounting for more than 90% at present. On the whole, the three of them more or less represented one third each (31.54%, 35.01% and 33.45%, respectively).

As for the surgery, herniorraphies represented 96.3% of patients, the Bassini operation strikingly standing out (86.4% of patients), the Mc. Vay operation having been performed in the remaining group. Prosthetic repair was performed in as few as 33 patients (3.7%). Herniorraphy was basically sewn with multifilament non-absorbable material in 77.05% and continuous suture was placed in 97.58% of patients.

Relaxing incisions were used in 3.02% of cases only as we no longer consider this manouver as being useful. Resection of the cremaster muscle was moderately performed (34.45%), whereas ligation and resection of the hernial sac was widely rendered (66.7%).

The mean postoperative spell at the DSU was 193.59 min (90–360). Immediate complications included slight local pain (15.44%), nausea (4.14%), and vagal syndrome (0.7%).

Our DSU's staff took over the home care for a mean period of 7.23 days. Local complications developed during either this period or the follow-up as shown in Table 1. The rate of complications was slightly higher in comparison to that of the prosthetic group, yet no statistical differences were found.

The mean follow-up period was 58 months (12–82). The overall rate of recurrence was of 1.5% (13 patients) for herniorraphies, and 0.33% for prosthetic repair (1 patient). Regarding the former, 10 patients presented with large direct defects, and two were older than 45 yr and presented with internal defects along with obesity.

Table 1
Immediate complications

Complications	Number of patients	Rate (%)
Slight pain (first 48 h)	82	9.2
Severe pain (first 48 h)	37	4.14
Seroma	18	2.07
Haematoma-ecchymosis	36	4.07
Wound infection	8	0.9
Hydrocoele	18	2.1
Neuralgia	3	0.33
Intolerance to suture	1	0.1
Mortality	0	0

We have analyzed several clinical indications of quality for day surgery, and found 6.4% overall unplanned admissions (Table 2), 5.9% unplanned overnight admissions, 0.45% unplanned return to the operating room, 0.45% delayed admissions (longer than 24 h after discharge), and 0.9% unplanned delay in discharge (longer than 6 h).

4. Discussion

Hernia surgery can be said to account for approximately 15% of surgical procedures carried out in a General Surgery Department in Spain. Its incidence varies widely in different countries – 10/10 000 inhabitants/yr in the UK to 28/10 000 inhabitants/yr in the USA [3].

Our study ties in with other multicentric studies in Spain, in terms of population data and distribution [4], with male adamantly setting against female and indirect defects against direct ones. Criteria such as age and concurrent diseases were different, for our patients had been picked out according to day surgery criteria [1]. This must be the reason why our patients developed a lower rate of complications both in the short and in the long-term in comparison to other series [5].

Table 2
Overall unplanned admissions

Grounds for unplanned admission	Number of patients	Rate (%)
Anaesthetic advice	19	2.1
Hernia size	14	1.6
Surgical complications	6	0.67
Associated surgery	6	0.67
Social or familiar	8	0.90
Systemic complications	4	0.45

According to some recent studies, local anesthesia plus sedation has been proved to result in higher degrees of acceptance and satisfaction, while cutting down on complications in comparison to general anesthesia, that in addition requires a longer stay in hospital [6–8].

We have reviewed the available literature regarding the clinical indicators of quality for day surgery. These are comparable to ours, with unplanned admissions due to surgical complications, as well as delayed admissions and unplanned return to operating room remaining lower than 1% [9].

Long-term studies have shown inconsistent rates of recurrence (0–30%) even though the same technique was performed [10]. That might well be due to a poor technique, which depends on the surgeon [11], or to inadequate selection [12].

Studies with only prosthetic repairs having been performed have resulted in a lower rate of recurrence ($< 1\%$) and complications, for these techniques are to some extent more independent of the surgeon and easier to perform [13–15]. According to other authors, morbidity can be said to be similar [16], the main downside being the presence of prosthetic material that could lead to several problems, such as intolerance or infection which increase cost [17].

The point is whether we should routinely use the prosthetic repair for groin hernia.

Further study in depth shows that specialized surgeons still recommend classical herniorraphies on the basis of good results, provided the surgery is flawlessly performed by skilled personnel in selected young patients with no associated morbidity [18–20]. We have reported on a satisfactory outcome for selected patients in our DSU, who underwent herniorraphy, with results comparable to prosthetic studies in terms of morbidity and rate of recurrence.

Those older than 40 yr and obese [21], who presented with direct defects [22] were more likely to develop complications and relapse.

To summarize, we can make out no significant difference on behalf of prosthetic repair in comparison to the classical techniques, as long as the patient is properly selected (primary indirect defects in young patients with no concurrent disease), and both surgery and postoperative home care are painstakingly carried out. Likewise, we regard the prosthetic repair as the gold standard technique in those patients with a weakened posterior inguinal wall.

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