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The Treatment of Inguinal Hernia in the Elderly: Always Local?

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Abstract

Abstract: Inguinal hernia is one of the most common diseases in the elderly. Local anaesthesia (LA) is almost used in open inguinal hernia surgery; whereas in routine practice, regional anaesthesia (RA) or general anaesthesia (GA) is the method of choice in the elderly.

Methods: A retrospective analysis of all inguinal hernia repairs performed in our hospital over a 3-year period was performed. The outcome measures were type of anaesthesia used, patient demography, co-morbidities, hernia type, hernia repair methods and hospital stay. Those who threated by local anaesthesia, recurrent and bilateral hernias and ASA (American Society of Anesthesiologists) grade IV patients were excluded from the study.

Results: A total of 237 hernia repairs were performed during the study period. According to the ASA classification; 130 patients were grade I, 98 were grade II and 9 were grade III. Of these 153 (%64.5) repairs were performed under RA and 84 (%35.5) under GA. Average hospital stay was 1.05/day. There was no mortality.

Conclusion: There are no major differences in patient recovery after LA, RA or GA hernia repair in ASA I, II and even in ASA III. Especially elderly patients should be offered a choice of anaesthesia for repair of their inguinal hernia.

Background

Inguinal hernias are common in the elderly because of the loss of strength of the abdominal wall and conditions with increased intra abdominal pressure [1,2]. The demand for surgical services for inguinal hernia is increasing due to the increase of an ageing population and hernioplasty gives these patients a remarkable improvement of quality of life [3-5]. Hernioplasty in primary election can always take advantage of local anaesthesia [6], dispite relative complications such as poor patient, morbid obesity, and bilateral hernioplasty, bulky and recurrent inguinal hernias [7].

However elderly patients have complex medical problems to make them unsuitable for day-case rates repair. Patients with co-existing illness and poor ASA grades III, IV are often excluded in randomized studies when comparing day case rates and different anaesthetic techniques [8,9]. The objective of this study was to look at the safety of inguinal hernia repair for older patients (aged 65 and more), in terms of unplanned admission, morbidity, mortality with regional or general anaesthesia.

Methods

We performed a retrospective review of all inguinal repairs performed between January 2010 and December 2012 in our unit by using our hospitals audit module of a computerized patient information system (SARUS internet and auto motion system). The data were collected retrospectively by case-note review and included demographics, hospital stay, ASA grade, technique of repair, early morbidity and mortality. The patients were grouped into different ASA grades prior to surgery based on the co-morbidity of the patient. All patients had to undergo further anaesthetic assessment prior to surgery. Exclusion criteria were: age less than 65 years, ASA grade IV, recurrent hernia, bilateral hernia, laparoscopic repairs and LA repairs. Poor patient status, obesity, bulky inguinal hernia and even systemic malignancy were not exclusion criteria. The patients were grouped according to Nyhus classification for hernia type and repair techniques.

Results

A total of 237 patients underwent inguinal hernia repair during the study period. The median age of the geriatric patients were 72 (range, 66-93). Of the study group, 153 (% 64.5) patients underwent surgery under RA and 84 (%35.5) patients under GA. The patient's characteristics and anesthetic technique are summarized in (Table 1). The majority of the patients were ASA grade I and II (% 96.2) with ASA grade 3

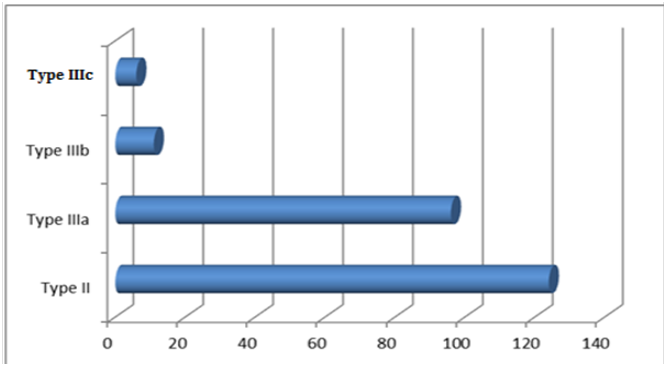
patients accounting for % 3.8 of all patients (Table 2). According to the Nyhus classification, 124 patients were type II, 96 type III a, 11 type III b and 6 type III c (Table 3). Treatment was 158 with mesh techniques (Lichtenstein and mesh plug), 79 with suture technique (modified Bassini) (Table 1). Although most of the patients were successfully discharged next day, only 9 of them required the other day because of hematoma, seroma and scrotal edema. Hospitalization rate was 1.07/day. There were no deaths or major complications in the group. Mean operation time was 46 min (32-105 min) in the general anesthesia group. Mean operation time was 65 min (40-135 min) in the general anesthesia group.

Table 1: Patients characteristics.

Sex	
Female	10 (4.3%)
Male	227 (95.7%)
Age in years median	72.2(range,66-91)
Anaesthesia type	
Regional	153 (64.6%)
General	84 (35.4%)
Technique	
Mesh techniques	158 (66.6%)
Suture technique	79 (33.4%)
Mean hospital stay	1.05 (range,1-2)
Comorbidity	
Benign	98(41.35%)
Malign	9 (3.79%)
Total	107 (45.14%)

Table 2: ASA classification of the patients.

Table 3: Nyhus Classification of the patients.



Discussion

Surgeons sometimes may be reluctant to perform elective repair of a hernia, because of the increased risk of postoperative complications in elderly patients. However, delay may increase the possibility of strangülation which necessitates surgery under advers conditions, and on increased risk of morbidity and mortality [10-13]. In geriatric patients, the anesthetic technique used has great importance because of the complications after the surgery. Elective open inguinal hernia repair under LA in a day-case treatment has a good outcome also in the elderly [14,15]. However, geriatric patients have complex medical problems increasing the risk of surgery and make them unsuitable for day-case repair [16].

Commonly perceived problem of LA inguinal hernia repair is the pain of infiltration. This can be extreme enough for patients to be dissatisfied with the procedure [17]. Another potential problem of LA inguinal hernia repair is toxicity especially in bilateral hernioplasty and obese patients who require large volumes. Also LA employment is another problem in recurrent and bulgy hernias. LA employment consists of several phases; first percutaneos, then incisional that is exclusively of surgical pertinence, as it is the task of the surgeon to identify the points of landmarks, locate and infiltrate properly [18]. Then, there must be a pretrial training for the surgeons in which taught to do the LA technique in a standardized manner. Conversion to GA seems to be the other problem. Some patients change their mind in the anesthetic room and request a general anesthetic, some show anxiety during the process and those patients had to undergo further anesthetic assessment.

We must talk more about Tailored Surgery, the so called personalized surgery, individualized, and built on the needs and characteristics of the patient [19]. The concept of Tailored Surgery encompasses not only technical-surgical and prosthetic choices but also anesthetic (local, assisted local, spinal or loco regional, general). In the elderly, affected by multiple pathologies in ASA IV group is better to perform the open technique in LA. The shortness of the hospitalization may be less necessary in the elderly and the elderly patient may not have a necessity for a rapid renewal of hard work or sport. In our study, LA is being offered to higher risk groups including ASA IV. ASA III patients underwent surgery with RA. Most of the patients were successfully discharged next day except 9 and mean hospitalization rate was 1.07 days that seems expectable.

Mortality after elective hernia is sufficiently low that it is not possible assesses differences using LA, GA or RA in a clinical trial setting [20]. Claims, therefore, that one type of anaesthesia is safer than another are unfounded and should not influence decision making in the medically fit patient with inguinal hernia. In our study there was no mortality or major systemic complications. Surgeons of varying backgrounds and experience participated in our trial. Moreover, surgeons were free to use their preferred method of hernia repair so that conditions in our

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trial matched those, in general surgical practice.

Our study demonstrates that geriatric patients requiring inguinal hernia repair shouldn't be avoided from the GA or RA in terms of Tailored Surgery. Elderly patients with inguinal hernia can be safely treated in open surgery under RA or GA with good preoperative anesthetic assessment and patient selection. Sure we don't say that inguinal hernia must be performed under GA or RA. LA seems to be the first choice in the open inguinal hernia repair also in the elderly. We think that decision to use one or the other should be at the discretion of the individual surgeon in consultation with the patient.

Conclusion

With good preoperative assessment and patient selection, elderly patients without significant co-morbidities can be safely treated with general or regional anaesthesia as well as local anaesthesia by using open hernia techniques.

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