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Brief Report

Umbilical Hernia in Adults: Day Case Local Anaesthetic Repair

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Abstract:

INTRODUCTION: The waiting times for elective surgery of Umbilical hernia (UH) in adults are unacceptably long in some cases. During this period, irreducibility and strangulation are possible. We operate on adult patients under local anaesthesia (LA) as day cases to avoid this delay and describe our experience in this paper. AIMS: The aims of our study were to look at the age and sex distribution, body weight, type and amount of local anaesthetic used, morbidity, admission and readmission rates, and waiting times of adult patients operated on for UH under LA. MATERIALS AND METHODS: It was a retrospective study covering a 4 year period from July 1996 to June 2000 including all adult patients undergoing the above procedure under the care of a single consultant general surgeon. A standard Mayo repair using non absorbable material was used without a mesh or a drain. RESULTS: 32 patients with UH were operated on under LA, 23 males and 9 females with a median age of 51 (range 20 to 86) years. The body weight ranged from 63 to 120 (median 87) kg. The average duration of the procedure was 30 (range 22-40) minutes. Sedation was needed in 4 patients. Two patients developed wound infections, one superficial and one deep. There was no mortality. The median period of follow-up was 24 (range 4-48) months and there was no recurrence. The median waiting time for the operation was 6 weeks. CONCLUSIONS: Day case local anaesthetic repair of UH in adults seems to be safe and feasible with an acceptable morbidity. Suture repair in the right patient has excellent results and the waiting times are acceptable. **(J Postgrad Med 2003;49:132-133)**

Key Words: Umbilical hernia, local anaesthesia, day case, morbidity.

The concept of repair of Umbilical hernia (UH) in adults is not new and there is some recent evidence suggesting that prosthetic repair could become the standard treatment.[1] There is controversy about using size of the defect as an important factor when deciding the type of repair being offered.[2] The waiting times for elective surgery in adults are unacceptably long in some countries. During this period, irreducibility and strangulation are possible as the neck of the sac is often remarkably narrow. These patients then present on the surgical intake needing urgent surgery when the general condition is not optimum. We operate on adult patients under local anaesthesia (LA) as day cases to avoid this delay and associated problems and describe our experience in this paper.

The aims of our study were to look at the age and sex distribution, body weight, type and amount of local anaesthetic used, morbidity, admission and readmission rates, and waiting times of adult patients operated on for UH under LA.

The waiting times for elective surgery of umbilical hernia in adults are unacceptably long in some cases. During this period, irreducibility and strangulation are possible.

Patients and Methods

It was a retrospective study by analysis of case notes, day case operating records, and the admission database using the Patient Administration System (PAS system). PAS is the standard patient information software system used in British hospitals. All data were entered onto an Excel 97 spread sheet prior to analysis. The study covered a 4 year period from July 1996 to June 2000 and included all adult patients undergoing the above procedure under the care of a single consultant general surgeon, with a special interest in upper gastrointestinal and laparoscopic surgery. This was a once weekly day case list and an anaesthetist was not available. A standard Mayo repair using non-absorbable material was used without a mesh or a drain.

Results

A total of 32 patients with UH were operated on under LA, 23 males and 9 females with a median age of 51 (range 20 to 86) years. The body weight ranged from 63 to 120 (median 87) kg. Our day case lists ran from 14.00 hrs to 16.00 hrs and patients were allowed to recover from the anaesthetic and discharged with analgesia and social support before 20.00 hrs the same day, avoiding usage of inpatient beds. The average duration of the procedure was 30 (range 22-40) minutes. We had to open the peritoneal cavity in 9 cases and in the remaining 23, the sac was not opened, freed all around, contents reduced, and good quality sheath approximated using No 1 Nylon sutures. All cases were uncomplicated in presentation and the defect varied between 1 and 2.5 cm in diameter. None of the patients developed paralytic ileus.

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A mixture of 20 ml 1% Xylocaine in 1/200,000 Adrenaline and 20 ml 0.5% Bupivacaine was used to infiltrate the layers of the abdominal wall around the hernia. Sedation with Midazolam (a water soluble benzodiazepine), average 5 (range 4-7) mg, was needed in 4 patients. None of the LA procedures needed conversion to general anaesthesia. A single consultant surgeon operated on all cases.

Two patients developed wound infections, one superficial and one deep. There was no mortality. The median period of follow-up was 24 (range 4-48) months and there was no recurrence detected during this time. The median waiting time for the operation in our study was 6 weeks, compared to an inpatient general anaesthetic waiting time of 12 months.

Discussion

Day case local anaesthetic repair of UH in adults appears to be safe and feasible with an acceptable morbidity. Delay in initiating operation may increase the possibility of strangulation which necessitates surgery under adverse conditions, and an increased morbidity and even death.[3] It is well documented that general and spinal anaesthesia are associated with higher rates of serious post-operative complications when compared with LA in patients undergoing inguinal and femoral hernia repair.[4] In addition, this technique favours early mobilisation of patients and this could contribute to the absence of major complications.

Our study illustrates that obesity in itself is not an absolute contra-indication for LA repair. 8 out of 32 (25%) patients had a body mass index of more than 30.

A randomised clinical trial comparing suture and mesh repair of UH[1] in adults used a combination of local anaesthetic and sedation in 98% of cases. Our study used local anaesthetic on it's own in almost 88% of cases and additional sedation was needed in only 4 patients. This is a useful alternative in patients who would prefer to have a general anaesthetic, but are not fit to undergo the same. UH can arise in patients with cirrhosis of the liver and ascites. A review of 35 such cases undergoing surgical intervention showed a high rate of significant complications (22%) and a mortality of 16%.[5] An aggressive surgical approach is indicated in such cases because of the risks of strangulation, rupture, and ulceration. Repair under LA is helpful in such cases as it avoids metabolic insult to an already compensated liver by the anaesthetic gases.

The waiting times for this operation under LA are acceptable and this is of great value in the current climate of bed shortages in the National Health Service (NHS) in the United Kingdom. The NHS in the United Kingdom provides free health care to the general population and only 10% are privately insured. There is pressure on inpatient beds with heart disease and cancer care along with emergency admissions taking priority over benign elective conditions. The waiting times in most hospitals are the same and hence referral elsewhere to expedite surgery is not a realistic option. These lists are directly supervised by the consultants and provide an excellent training opportunity for the basic as well as higher surgical trainees.

Our study illustrates that obesity in itself is not an absolute contra-indication for LA repair. 8 out of 32 (25%) patients had a body mass index of more than 30. The advantages of day case surgery for groin hernia have been established at least two decades ago,[6] but these cases have all been carried out under general anaesthesia. There are a lot of recent reports for mesh repair of inguinal hernia under local anaesthesia.[7,8] The concept of dedicated day units is now here to stay and local anaesthetic repair of UH in adults can easily be accomplished.

Another prospective study of 100 consecutive patients who underwent inguinal hernia repair under local anaesthesia showed low peri-operative morbidity and a high level of patient satisfaction.[9] In summary, we recommend this technique as the first line of treatment in adults with UH. Obviously the patient will have to be counselled fully about the operation and anticipated course of recovery.

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