RESEARCH PAPER | Medical science | Volume : 6 | Issue : 2 | FEBRUARY 2016 | ISSN - 2249-555X

Inguinal hernia repair under local anaesthesia - a lost art

KEYWORDS

Rajat Raghunath	Serina Ruth Salins
Assistant Professor Division of Surgery Christian Medical College, Vellore Tamil Nadu, India – 632004	Assistant Professor Department of anaesthesia Christian Medical College, Vellore Tamil Nadu, India – 632004

Indrani Sen	Edwin Stephen
Assistant Professor Division of Surgery Christian Medical College, Vellore Tamil Nadu, India – 632004	Professor Division of Surgery Christian Medical College, Vellore Tamil Nadu, India- 632004

ABSTRACT *PURPOSE - The purpose of this study is to evaluate the effectiveness of inguinal hernia repair under local anaesthesia, the advantages and cost effectiveness in a secondary hospital setting.*

METHODS - A retrospective audit of inguinal hernia repair was done over a period of 4 years. This included unilateral and bilateral inguinal hernia.

RESULTS - A total of 184 inguinal hernia repairs was done during this period. Most had Lichenstein tension free mesh repair while some had Bassini herniorraphy. There were almost no postoperative complications in the patients. Postoperative pain was adequately managed with oral diclofenac.

CONCLUSION - We conclude that open inguinal hernia repair can be conducted effectively under local anaesthesia and it provides a safe alternative to other anaesthetic techniques

Introduction

Inguinal hernia repair is one of the commonest surgeries performed worldwide. Being a basic surgical procedure taught to a trainee surgeon, it is a surprising that nearly 80 techniques have been described since Bassini (1) first reported his method in 1889. Surgery is most often performed under regional anaesthesia. The ideal type of anaesthesia to perform this procedure is yet to be determined. At a rural setting where surgeries are done with limited resources of personnel and material hernia repair can become difficult.

We describe here a retrospective auditt of practice of inguinal hernia repair done under local anaesthesia at a rural hospital in India. The centre provides health care services for a population of 200,000 and has 60 inpatient beds. Majority of the surgical procedures are done as day care procedures with inguinal hernia repair as one of the commonest elective operations

Material & Methods

The purpose of this study was to evaluate the effectiveness of inguinal hernia repair under local anaesthesia, its advantages and cost effectiveness. A retrospective audit was carried out and patients above the age of 18 who underwent inguinal hernia repair under local anaesthesia were included. All the surgeries were done by a single consultant surgeon, namely the senior author between September 1998 and December 2001 and January 2005 and November 2006. Case notes were obtained and the parameters studied were

- Efficacy of the anaesthesia
- Surgical technique and average time
- Safety and postoperative course
- Length of hospital stay
- Recurrence.

Patients were followed up to a maximum of five years. Results were entered on a standardized proforma. The surgeries performed were Bassini's or Lichtenstein's tension free mesh repair. Bassini herniorraphy was done in the initial year due to cost factor or unavailability of polypropelene mesh. The patients were followed up for complications such as infection, chronic pain and recurrence in the outpatient department.

Results:

A total of 184 inguinal hernias were repaired during the study period under the senior author. Of these there were 176 males and 4 females. The average age was 46.4 years. This series included 174 unilateral, 3 bilateral, 3 femoral and 4 recurrent inguinal. Bilateral procedures were considered as separate procedure. The follow up of patients ranged from 9 months to 5 years. All patients were comfortably operated under local anaesthesia except 2 who needed to have the anaesthesia supplemented with intravenous ketamine. 64 patients underwent Bassini herniorraphy and the rest had Lichenstein tension free mesh repair. All patients were discharged the same evening except 10 patients who were hospitalized for 1 day due to social reasons. There were no instances of complications like postoperative vomiting, urinary retention or headache commonly seen in patients operated under regional anaesthesia. All patients received oral diclofenac postoperatively and were comfortable without needing any supplemental analgesics. Two patients who developed superficial wound infection were managed conservatively. None had mesh or deep infection.

The patients were followed up in the outpatient depart-

Volume : 6 | Issue : 2 | FEBRUARY 2016 | ISSN - 2249-555X

ment and were assessed for chronic pain or recurrence.

Follow up of patients ranged from 9 months to 5 years. Two patients had come with complaints of chronic pain though the pain did not affect their life style or work and improved on oral analgesics. One patient presented with a recurrence who had undergone herniorraphy. He had a tension free mesh repair under local anaesthesia and had an uneventful postoperative period.

Discussion:

While emergency operations for strangulated inguinal hernia predominantly require general or regional (spinal) anaesthesia, elective inguinal hernia repair can safely be performed under local anaesthesia. In specialized centres elective groin hernia repair is almost always done under local anaesthesia(2) whereas in teaching hospitals, regional or general anaesthesia are the methods of choice. During the last decade, several studies have shown that local anaesthesia is equally suitable or even superior to general or regional anaesthesia regarding cost effectiveness as a day care procedure, postoperative time spent in theatre, length of the hospital stay, patient satisfaction and recurrence rate.(3)(4). Also the authors felt that intraoperatively the planes for the operation were easier to delineate probably due to the hydrodisection of the local anaesthetic.

Wilhelm et al(5) did a study in rural Ghana and stressed the need for local anaesthesia with inguinal hernia in resource poor countries.

Bilateral groin hernias also can be managed under local anaesthesia. However, most surgeons prefer general or regional anaesthesia because of the limitations of the maximum permissible dosage of local anaesthesia which can still lead to insufficient analgesia when infiltrating both groins. In our series, there were three bilateral inguinal hernias both successfully operated without any complications.

The main resource saving potential of local anaesthesia is that fewer medical staff are needed to monitor the patient intra and postoperatively. While some authors perform a continuous electrocardiogram and intermittent blood pressure monitoring, others restrict monitoring to verbal contact between the patient and the staff, like us. (6)

Callesen(7) reported a series of 1000 hernia repairs under unmonitored local anaesthesia in Denmark with few complications and only 5 conversions to general anaesthesia.

A definite advantage of local anaesthesia is the minimal physiologic disturbances making it much safer for patients with cardiovascular and respiratory disturbances with minimal postoperative drowsiness and sedation allowing early ambulation and recovery.(8)

When adrenaline is used mixed with the local anaesthesia, there is a relative blood less field. The patient is awake and can be asked to cough in order to identify the hernia if needed, postoperative nausea and vomiting are definitely less and early ambulation allows for early voiding and thus decreased chance of urinary catheterization. (3)

Conclusion

We conclude that open inguinal hernia repair can be conducted effectively under local anaesthesia and it provides a safe alternative to other anaesthetic techniques. The Lichenstein inguinal hernioplasty is technically simple, reliable procedure with minimal morbidity and recurrence. A reasonably prompt return to work and to normal activities can be expected. Thus groin hernioplasty under local anaesthesia is a procedure every surgical trainee in the developing world must be taught and still has an important place in the armamentarium of the general surgeon.

REFERENCE

1. Bassini E. Nuovo metodo operativo per la cura dell'ernia inguinale. Padua, 1889. 2. Chyung JW, Shin DG, Kwon Y, Cho DH, Lee KB, Park SS, et al. Tumescent local anesthetic technique for inguinal hernia repairs. Ann Surg Treat Res. 2014 Dec;87(6):325–30. 3. Huntington CR, Wormer BA, Cox TC, Blair LJ, Lincourt AE, Augenstein VA, et al. Local Anesthesia in Open Inguinal Hernia Repair Improves Postoperative Quality of Life Compared to General Anesthesia: A Prospective, International Study. Am Surg. 2015 Jul;81(7):704–9. 4. Verstraete L, Becaus N, Swannet H, Ceelen W, Duchateau L, Speybroeck N. Long term outcome after lichtenstein hernia repair using general, locoregional or local anaesthesia. Acta Chir Belg. 2015 Apr;115(2):136–41. 5. Wilhelm TJ, Thawe IK, Mwatibu B, Mothes H, Post S. Efficacy of major general surgery performed by non-physician clinicians at a central hospital in Malawi. Trop Doct. 2011 Apr;41(2):71–5. 6. Mitura K, Kozieł S, Pasierbek M. Groin hernia surgery in northern Ghana--humanitarian mission of Polish surgeons in Tamale. Pol Przegl Chir. 2015 Jan;87(1):16–21. 7. Callesen T. Inguinal hernia repair: anaesthesia, pain and convalescence. Dan Med Bull. 2003 Aug;50(3):203–18. 8. Nordin P, Zetterström H, Gunnarsson U, Nilsson E. Local, regional, or general anaesthesia in groin hernia repair: multicentre randomised trial. Lancet Lond Engl. 2003 Sep 13;362(9387):853–8.