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A RETROSPECTIVE EVALUATION ON THE SURGICAL MANAGEMENT OF CHRONIC ANAL FISSURE WITH DIFFERENT METHODS OF ANAESTHESIA

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Abstract

Introduction: Fissure-in-Ano or Chronic Anal Fissures (CAF) is a linear ulcer in the squamous epithelium of the anus, distal to the dentate line & one of the most common and painful anorectal conditions encountered in surgical practice. Surgeons working in a rural setups and First Referral Units are faced with several challenges and limitations. Patients undergoing surgery under spinal anaesthesia have to undergo a battery of blood tests and imaging as a result for poorer patients the cost of treatment becomes manifold. This retrospective study was aimed to compare the outcome of lateral anal sphincterotomy (LAS) for chronic anal fissure, done under Spinal Anaesthesia and Local Anaesthesia.

Methods: This Retrospective study involved Prior Consent from the Hospital Authorities & was found to be within ethical standards. Data of 200 patients were selected which were proven cases of Chronic Anal Fissures admitted to the local surgical units in last 4 years. Subjects included both the genders, all age groups including pediatric and geriatric age group and all classes of socio economic strata.

Results: Data of total 200 patients were obtained, out of 200 participated 127 were women and 73 were men. A total of 100 patients (50%) underwent LAS under local anaesthesia and 100 patients (50%) underwent LAS under spinal anaesthesia. The mean age of the patients was 41.37 years with Standard Deviation of 3.42 years. There was No Statistical Difference between the two groups in terms of Intraoperative and Postoperative Complication like Pain, Incontinence & Infection after follow up.

Conclusion: Lateral anal sphincterotomy (LAS) provides very good healing of Chronic Anal Fissure. Few distinct advantages were noted in the study while doing LAS under LA. It provides adequate pain relief for the procedure apart from the advantage of easy palpability of the sphincter. It can be done as an Outpatient procedure without the need for an anesthetist, and carries a significant cost benefit to the patient especially in lower socio-economic settings. There is no significant difference in the complications or the healing of the fissure when compared with SA.

Keyword: Fissure-in-Ano , Lateral anal sphincterotomy, Spinal Anaesthesia , Local Anaesthesia , Retrospective Study.

Introduction

Fissure-in-Ano is a linear ulcer in the squamous epithelium of the anus, distal to the dentate line. It is one of the most common and painful anorectal conditions encountered in surgical practice [1] if acute, the severity of patient discomfort and extent of disability far exceed that would be expected from a seemingly trivial lesion. Anal fissure is usually noticed by the patient as bright red anal bleeding on the toilet paper. If acute, there may be severe periodic pain after defecation but with chronic fissure intensity of pain is often less. It is diagnosed by the typical history of pain, bleeding, discharge and clinical findings.[2]

Chronic fissures may be associated with a sentinel pile or anal papilla. The great majority of fissures occur in the posterior midline (90%), although anterior midline fissures are seen in 10-20% of affected women and 1- 10% of affected men.[3]

Anal Fissure is characterized by the presence of indurated edges, visible fibres of internal anal sphincter at the base of the fissure, and sentinel polyp or tag at the distal end of the fissure .[4,5,6] There is a dearth of epidemiological studies on anal fissures in India but the incidence of fissure is likely to increase due to factors like change in dietary habits with increased intake of low-fibre high-calorie foods.

There are several effective options for managing acute anal fissures non-operatively. These options

vary from a change in dietary habits and fluid intake to local medication options like the cutaneous application of Isosorbide Dinitrate [7] or Diltiazem[8], or intra-sphincteric injection of botulinum toxin [9]. Most of these measures are effective not only for acute fissures but have a role to play in chronic fissures as well. There is however, a relatively higher recurrence rate and fissure persistence when compared to surgical management [7,8,9]. Surgical management is often offered only when a fair trial of medical management has failed.

Lateral Anal Spincterotomy (LAS) has been accepted as the gold standard treatment for chronic fissures[10,11]. The choice of anaesthesia for LAS has been debated for several years, with earlier studies recommending general or SA in view of the severe pain caused by the fissure per se. Subsequently few studies have established the use of LA as equally effective and sometimes advantageous as compared to general anaesthesia[12,13]. But the choice of anaesthesia is still mostly left to the discretion of the surgeon and the availability of an anaesthetist above others factors like cost and convenience to the patient.

Unfortunately, for many poorer patients needing definitive surgical treatment, the cost of treatment becomes manifold when we include the opportunity cost of income lost and expenses incurred during the hospital stay. Total cost incurred to the patient varies largely according to the choice of anaesthesia for the surgery. Patients undergoing surgery under spinal anaesthesia have to undergo a battery of blood tests and imaging as a pre-requisite for acceptance for anaesthesia, while we do not need any expensive investigations to do the same procedure under local anaesthesia. There is a marked difference in the final cost to the patient for the same surgery done under local and spinal anaesthesia.

Moreover, surgeons working in a rural setups and First Referral Units are faced with several challenges and limitations, of which availability of anaesthetist is a great limitation and cannot be understated. Hence, it is more important to identify ways and means to do cost effective surgeries in the rural areas without compromising on the outcome, neither of the patient nor the condition being treated. The present study was aimed to compare the outcome of lateral anal sphincterotomy for chronic anal fissure, done under Spinal Anaesthesia and Local Anaesthesia.

METHEDOLOGY

This Retrospective study involved Prior Consent from the Hospital Authorities / Medical Superintendent of the tertiary care hospitals to see the records of the patients & was found within ethical standards. Data of 200 patients were selected which were proven cases of Chronic Anal Fissures admitted to the local surgical units in last 4 years .Subjects included both the genders , all age groups and all classes of socio economic strata. The selection criterions for the patients were based on the specific complain and detailed physical examination related to Chronic Anal Fissures. Only those cases were chosen where a detailed history of presenting complaints was recorded with special reference to pain during defecation, bleeding per rectum, swelling in anal region, constipation, diarrhea and perianal itching Fissure in ano with symptoms more than 6 weeks and/or as one where previous conservative or medical treatment has failed or where the base of the ulcer is formed by fibers of internal sphincter or where there is a sentinel skin tag.

A total of 200 eligible and adult patients with CAF were included in the study and were randomized to either SA group or LA group using a computer generated random numbers table.

For patients in spinal anaesthesia group, detailed blood work-up like haemoglobin, blood sugars, renal function tests and imaging were done before undergoing fitness for anaesthesia. These patients were admitted to the surgical ward prior to surgery and were kept nil orally from midnight on the day of surgery and intravenous fluids started just before shifting them to the operating room. Anaesthesia was administered by the anaesthetist and monitored till the end of the procedure. For patients in LA group, such patients were selected which couldn't afford the cost of More specific investigations , for these only haemoglobin and random blood sugars were done as they were not required to undergo detailed anaesthetic work-up. They were asked to report in the morning on the day of surgery and were not started on any intravenous fluids. LA was administered by the surgeon himself under aseptic precautions. A combination of 5ml of 2% lignocaine and 5ml of 0.5 % Bupivacaine were taken together, of which 5 ml was injected at the base of the fissure and 5ml injected at the site of sphincterotomy.

All the patients underwent standard open conservative internal anal sphincterotomy in

lithotomy position irrespective of the group. The sphincter was divided upto the length of the anal fissure, under direct vision using a surgical blade or electrocautery. The adequacy of division was ensured by palpating the inverted 'V' shaped defect in the sphincter. The wound was dressed with simple vaseline gauze without suturing.

After the procedure and discharge Patients were asked to follow-up every week for a period of 4 weeks or till the fissure healed, whichever was earlier? Pain, infection and incontinence (minor and major) were measured during each follow-up visit. Fissure was declared healed when the patient had no pain or bleeding during defecation and clinically by the absence of sphincter spasm.

Pain was assessed using patients' Verbal Descriptive Scale (VDS) for pain with standard five categories; 0: No pain, 1: Mild pain, 2: Moderate pain, 3: Severe pain, 4: Very severe pain.

Presence or absence of Infection was recorded during the follow- up visits as infection could increase the chances of incontinence or lead to further complications like abscess formation and bleeding.

Telephonic interviews were conducted for those who failed to attend the follow-up clinic. On the telephone interviews, patients were enquired regarding their symptoms of pain, bleeding, infection and incontinence. Patients who reported to be completely asymptomatic on the telephonic interviews were declared fissure healed and included in the final outcome as such. Patients with any persistent symptoms were requested to review in the follow-up clinic for further evaluation of the fissure.

Data was filled in Microsoft Excel & analysed using a computer software Epi Info version 6.2 (Atlanta, Georgia, USA) & SPSS. P value of 0.05 and less was considered as statistically significant.

RESULTS

Data of total 200 patients were obtained, out of 200 participated 127 were women and 73 were men. A total of 100 patients (50%) underwent LAS under local anaesthesia and 100 patients (50%) underwent LAS under spinal anaesthesia. The mean age of the patients was 41.37 years with Standard Deviation of 3.42 years

During the intra-operative period, in the local anaesthesia group 7 patients complained of severe pain during the procedure. No pain or anaesthesia related complications were reported in the spinal group. This increased incidence of intra-operative severe pain in the local group was not statistically significant (p=0.87) when compared to the spinal group.

In the immediate post-operative period, 4 patients in the local anaesthesia group complained of severe pain while none in the spinal group had any complaints. Also the difference was not statistically significant between the two groups (p=0.13). Though pain eventually subsided with Injectable or oral analgesics, one of the patients had to be admitted for pain relief.

Of the 200 patients, 176 (88%) reported for the follow-up visits. Remaining patients failed to follow-up even once and was not contactable by phone or letters. These patients were considered lost to follow-up and were excluded from the analysis.

Four patients, two from each group, presented with severe pain and sphincter spasm in the first week. They were reviewed by senior consultants and found to be due to inadequate surgical procedure. As they occurred within the first week, they were considered as surgery failures and included as such in the final analysis. Repeat surgery was done for these two patients immediately and both recovered well.

There was further decrease in patient numbers during subsequent follow-up visits. All patients who reported at the end of 8 weeks were pain-free and their fissures healed completely. There was no statistically significant difference (p=0.234) in pain during the second follow-up.

Three patients had wound infection in the spinal group during the follow- up visits, while two patients in the local group and one patient in the spinal group presented within visit. However, there was no statistically significant difference (Fisher-Exact test) between the two groups during the visits (p = 0.259) . All settled without any need for surgical intervention.

Incontinence was measured based on patient symptoms, in any form minor or major anal incontinence. 6 patients in the study reported incontinence during the follow up visits and all had minor incontinence i.e. incontinence to flatus only. None of the patients reported incontinence during subsequent visits. Using Fisher-exact test, there was no statistically significant difference between the groups (with a p-value of 1.67).

DISCUSSION

Fissure in ano is a disease of young adults. Jensen SL studied 90 patients with acute fissure in ano and reported a mean age of 45 years.[14] Raj VK and Kadam MM has observed that 36.67% of acute fissure in ano and 43.33% of chronic fissure in ano cases occurs in the age group 21- 30 years.[15]

Diet also plays an important role in development of fissure in ano. Low fiber diet can predispose to formation of hard stools hence fissure. Jensen SL in his work "Diet and other risk factors for fissure-in-ano", has stated that anal fissures occur due to inappropriate diet and a diet modification can reduce the incidence of the disease.[16]

Even with the advent of several non-operative therapies for chronic anal fissure, Lateral anal sphincterotomy is still considered the standard surgical treatment that provides the best healing rates and least recurrence. From preference to general anaesthesia in the earlier years, trends have gradually shifted towards LA [13,17,18]

Few distinct advantages were noted in the study while doing LAS under LA. First, adequate analgesia for the procedure was satisfactorily achieved in most of the patients. By injecting some lignocaine at the base of the fissure, there was good relief of pain over the fissure. This also allowed painless per rectal examination of the internal sphincter. This was followed by injecting lignocaine at the surgery site which provided good analgesia for sphincterotomy. Internal sphincter is not relaxed under LA. As the sphincter is in spasm, the length of the sphincter could be appreciated easily and the adequacy of the length of division verified distinctly. This benefit is lacking under spinal or general anaesthesia where the sphincter is fully relaxed, presenting difficulties in defining its length.

The low rates of incontinence reported in the study supports other studies' findings[19,20] of low rates of incontinence with limited sphincterotomy. Third is the difference in the cost of Surgery done under LA and SA. Considering the cost of pre-operative evaluation, surgery cost and opportunity cost, spinal group patients spent atleast three times more money than the local group patients for the same surgery. This carries greater significance in this setting where most of the patients come from poor economic backgrounds. In view of these benefits with LA, Hiltunen and Matikainen called it ambulatory treatment for CAF where patients were allowed to leave the clinic immediately after the surgery [21]. With shortage of trained anaesthetists in surgical centres in rural hospitals, in spite of awareness of the potential complications of SA, often surgeons themselves have to give the SA, while trained nurses monitor the vitals throughout the procedure. In such contexts, LA administered by the surgeon himself is definitely safer in avoiding the risks of SA. Obese patients or those with unfavourable buttocks or those needing exploration can be reserved for SA or general anaesthesia to achieve good relaxation and exposure. Symptoms subsided completely in most of the patients. Due to irregularity in follow up, telephonic interviews were resorted . Many patients in the study, coming from low socio-economic background, failed to report regularly for follow-up visits as this meant a loss of one day's wages apart from the expenses incurred in travelling and food.

CONCLUSION

Lateral anal sphincterotomy provides very good healing of CAF. Choice of anaesthesia for the procedure is at the discretion of the surgeon and depends on the availability of anaesthetist.

LA provides adequate pain relief for the procedure apart from the advantage of easy palpability of the sphincter. It can be done as an Outpatient procedure without the need for an anaesthetist, and carries a significant cost benefit to the patient especially in lower socio-economic settings.

There is no significant difference in the complications or the healing of the fissure when compared with SA.

All the incontinences reported were minor which did not require any treatment. Overall fissure healing rate was very high and there was no recurrence of fissure in the patients.

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