Reappraisal of Partial Lateral Internal Sphincterotomy

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PURPOSE: The aim of this study was to delineate the results, mortality, and morbidity of partial lateral internal sphincterotomy for the treatment of chronic anal fissure. METHOD: A retrospective review of 500 patients undergoing partial lateral internal sphincterotomy for chronic anal fissure between 1980 and 1990 was performed. Patients were identified by a review of an office surgical ledger and included all patients whose diagnosis was anal fissure and for whom a partial lateral internal sphincterotomy was performed as treatment. RESULTS: Over an average follow-up of 5.6 years, only 1 percent of patients failed to heal their fissures after performance of this operation. Minor complications included pain, pruritus, wound abscess, discharge, delayed healing, bleeding, fecal impaction, minor incontinence, and urgency and were present in 16 percent of patients, postoperatively. Two percent of patients who initially healed their fissures suffered a recurrence. Complication rates in open vs. closed sphincterotomy were 15 percent vs. 8 percent (P < 0.01). Disorders of fecal continence occurred in 8 percent of patients over the long term. CONCLUSION: Extended follow-up after partial lateral internal sphincterotomy demonstrates a higher complication rate than was seen in patients being followed for shorter periods. However, the complication of impaired fecal continence only occurred in 8 percent of our patients, compared with 15 percent reported in the current literature, although using the same evaluative criteria. Patient satisfaction with the results of surgery was 98 percent. Careful patient selection, absence of preoperative continence problems, and meticulous surgical techniques are necessary to achieve this type of result. [Key words: Fissure, anal; Sphincterotomy; Complications; Follow-up]


Partial lateral internal sphincterotomy is accepted by most surgeons as the procedure of choice for treatment of chronic anal fissures. It effectively overcomes spasm of the internal sphincter, which prevents the fissure from healing and treats anal stenosis when it is present. A laterally placed sphincterotomy incision heals much faster than a posterior sphincterotomy, and relief of pain from the anal fissure is often dramatic. Posterior sphincterotomy has been associated with increased frequency of a “keyhole” deformity and a reported incidence of fecal incontinence as high as 43 percent. Incidence of incontinence associated with lateral sphincterotomy is significantly lower and was reported by Bailey et al. at 2.2 percent. More recent reviews of lateral sphincterotomy emphasizing the importance of long term follow-up have shown incontinence rates of 15 percent and have prompted us to review our experience with 639 sphincterotomies done between 1980 and 1990. These operations were performed either by a closed subcutaneous procedure or an open operation, with closure of the anal wound using interrupted absorbable sutures.

MATERIALS AND METHODS

Charts of 639 patients who underwent partial lateral internal sphincterotomy for anal fissure between 1980 and 1990 were reviewed. Five hundred patients responded to our questionnaire regarding their postoperative course and comprise the population of this review. Responses, when uncertain, were confirmed by telephone interview.

Minor complications were defined as conditions present beyond one month following surgery, which caused persistent symptoms that resolved spontaneously. Major complications were defined as conditions that occurred beyond three months of surgery that required some type of corrective procedure. Conditions still present at the time of the follow-up survey were considered long-term complications.

All patients underwent partial lateral internal sphincterotomy alone, with most patients (290) undergoing an open sphincterotomy and the remaining procedures (290) being done via a closed subcutaneous technique. Primary indications for this procedure were chronic fissure, with the remainder being done for fissure with acquired anal stenosis. In some patients related external skin tags and associated hypertrophic papillae were excised.

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All procedures were performed under local anesthesia. Intravenous sedation was administered to increase patient comfort and cooperation. Anal acceptance of a 3.5 cm diameter Ferguson-Hill retractor was used to judge adequacy of the sphincterotomy. In open cases, the lateral sphincterotomy incision was distal to the dentate line. Wounds were closed loosely with interrupted absorbable sutures. Wounds were left open distally for drainage of blood (Fig. 1).

Closed sphincterotomy technique was chosen for patients in whom the intersphincteric groove was readily palpable when the anus was stretched by inserting the Ferguson-Hill retractor. If there was any question of defining the intersphincteric groove by palpation, an open sphincterotomy was performed.

For performance of the closed sphincterotomy, a 1–2-mm radial knick was made over the intersphincteric groove in the right or left lateral position using a #11 scalpel. The scalpel was then inserted into the intersphincteric groove to a depth approximating the dentate line. With the surgeon's index finger placed within the anal canal, the Ferguson-Hill retractor held the canal open under gentle tension. The scalpel edge was oriented to direct the incision in the internal sphincter toward the surgeon's index finger from the level of the dentate line and not proximal to this point. Digital pressure was then applied to gradually fracture the submucosal fibers of the internal sphincter to the level of the dentate line. In this technique, the overlying anoderm is left intact. The stab wound, through which the sphincterotomy was carried out, was left open as a drainage site and generally was healed within the first postoperative week. This technique has been previously described by Hoffman and Goligher.

Complication rates for open and closed sphincterotomy were analyzed to determine the effect of surgical technique on morbidity using the Z test for independent sample proportions.

**RESULTS**

There were 285 females (mean age, 44 years) and 215 males (mean age, 46 years) comprising the patient population. Two hundred ninety patients under-

![Figure 1. A. Incision distal to dentate line. B. Spreading skin over internal sphincter. C. Instrument in intermuscular groove. D. Transection of internal sphincter. E. Internal sphincter divided. F. Skin closure.](image-url)