



## Comparison Between Anal Dilatation and Lateral Anal Sphincterotomy in The Management of Chronic Anal Fissure: An Article Review

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### Introduction

Chronic Anal Fissure (CAF) is a painful anal condition occurring as a tear in anoderm which persists for >6 weeks duration. It is clinically associated with a sentinel pile, hypertrophied anal papilla, visible anal sphincter fibers at the base, along with sphincterspasm. Common symptoms are painful defecation, bleeding per rectum, and constipation. Management includes medical (conservative) and surgical methods. Treatment mainly aims to reduce the internal anal sphincter tone and thereby facilitate fissure healing. Anal Dilatation (AD) and Lateral Anal Sphincterotomy (LAS) are commonly employed surgical options when conservative treatment fails. AD involves controlled manual stretching of the internal anal sphincter; whereas LAS involves surgical division of the internal anal sphincter which can either be 'closed' or 'open' method. These procedures have been done in spinal or general anesthesia. This is a review of six articles studying the comparison between AD and LAS in the management of CAF.

**Critical Analysis of Articles:**

A prospective randomized controlled trial (RCT)<sup>1</sup> involved 80 CAF patients divided equally into AD and LAS groups. Regular follow-up for 6 months was done to monitor the outcomes such as pain, bleeding, incontinence, postoperative hospital stay, and recurrence. After 3 months, the difference in wound healing was statistically insignificant ( $p=0.565$ ). A minor difference in pain relief was observed between AD and LAS groups. No findings of anal incontinence or situations of sphincter damage were noted. Recurrence was reported as 5% in AD and 2.5% in the LAS group, and this difference is statistically insignificant ( $p=0.5653$ ). AD had similar postoperative symptoms, complications, and recurrence rates compared to LAS. Although pain scores in the first 24 hours were significantly higher in the AD group when compared to the LAS group, this difference was subsequently negated with no significant difference during discharge. AD was found to be suitable for CAF patients because it is less invasive compared to LAS, with equivalent efficacy and safety.

An observational study<sup>2</sup> involved 50 patients in AD and 44 in the LAS group. The average follow-up period was 3.5+4.9 months (1-9 months). The primary outcome measure was ulcer healing and secondary outcome measures were pain relief and anal incontinence. After 1 month, pain relief was noted in 90% of AD and 95.45% of the LAS group; ulcer healing was noted in 94% of AD and 97.7% of the LAS group. After 3 months, minor incontinence including mucous discharge was noted in 24% of AD and 6.8% of the LAS group, which was statistically significant. No major incontinence was noted. Recurrence rates were 16% in AD and 2.27% in the LAS group. The study concluded that both AD and LAS provided early pain relief and a high ulcer healing rate; LAS appeared to be safer with regards to lower incontinence and recurrence rates compared to AD.

A prospective study<sup>3</sup> considered maximal anal dilatation with fissurectomy (MAD+F) compared to LAS. At 3 months follow-up, there was no bleeding in both groups. Pain, persistent spasm, fecal incontinence and delayed wound healing were observed in about 50% of the MAD+F group; none of them were observed in the LAS group (statistically significant at  $p<0.0001$ ). The study concluded LAS as preferable and better surgical treatment with fewer total complications when compared with MAD+F. MAD+F can be considered as a radical form of anal dilatation, which has been associated with poorer outcomes.

A quasi-experimental study<sup>4</sup> involved 40 patients each in AD and LAS groups. Mean hospital stay was reported as 2.53+1.11 days in AD and 1.45+0.58 days in the LAS group. Patients were followed-up postoperatively, at the 1st, 3rd, and 6th week. Complications reported were: flatus incontinence in 22.5% of AD and 15% of LAS group; fecal incontinence in 5% of AD and 2.5% of LAS group; perianal hematoma & edema in 45% of AD group; and wound infection in 2.5% of LAS group. LAS was shown to be safer and more effective in CAF management with regards to early symptomatic relief, shorter hospital stay, and lesser complication rate; thus a better surgical treatment than AD.

A prospective study<sup>5</sup> of 50 patients randomized into AD and LAS groups. The fissure was relieved in 88% of AD and 96% of the LAS group ( $p=0.6092$ , statistically insignificant). Complications reported include bleeding in 12% AD and 4% LAS group; infection in 8% AD and 4% LAS group; and relapse in 16% AD and 8% LAS group. No incontinence was noted in both groups. It was concluded that AD significantly reduces anal pain and provides symptomatic relief. However, LAS had slightly better results in symptomatic improvement with relatively lesser complications.

A controlled prospective trial<sup>6</sup> involving 100 patients compared the cure rates, postoperative complications, and cost-effectiveness between AD and LAS in CAF. During the follow-up of 6 weeks, complete recovery was reported in 92% AD and 90% LAS groups. There was a significant reduction in anal pain and symptomatic relief with AD, which was equivalent to LAS. There was a slightly better symptomatic improvement with AD compared to LAS; AD is a less invasive method for CAF. AD had not shown any complications like incontinence or sphincter injuries.

### **Conclusion**

Anal Dilatation and Lateral Anal Sphincterotomy are effective surgical treatment options in chronic anal fissures when conservative management fails. These can be performed under spinal/general anesthesia within a short hospital stay. High cure rates (>90%) have been observed for both AD and LAS. Both the methods provide early pain relief, a high ulcer healing rate, and overall symptomatic improvement, with equivalent efficacy and safety. No instances of major anal incontinence or sphincter damage have been reported in both these procedures, and the post-operative symptoms, complications, and recurrence rates are comparable. AD is less invasive, but there are differences in the consistency of the technique employed. LAS has been considered relatively safer with regards to lower incontinence and recurrence rates. Certain limitations of the studies like the small sample size and absence of anal pressure assessment through manometry, are noteworthy. Although certain meta-analysis report that controlled proper anal dilatation has acceptable results, minimal literature and studies favor the utilization of AD. Hence larger prospective RCTs may be suggested to further evaluate AD.

### **Authors' Implications and Claims:**

"External anal sphincter is the main culprit in fissure-in-ano, whereas the internal anal sphincter may have a role in hemorrhoids and deeper pathologies. Internal sphincterotomy could not be the complete treatment for fissure-in-ano. Whereas Anal Dilatation tackles both the sphincters, including the external sphincter. Hence Anal Dilatation is deemed to be the treatment of choice for fissure-in-ano."

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