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Comparison of Wound Complications in Open vs Closed Lateral Internal Sphincterotomy for Anal Fissure

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Purpose

Partial lateral internal sphincterotomy (PLIS) is considered the preferred surgical treatment for chronic anal fissure in most patients. PLIS can be performed by either the open or closed technique, with equivalent efficacy in fissure healing rates.¹⁻⁴ Few studies have specifically compared wound complication rates between the two techniques. Our aim in this study was to compare the incidence of wound complications at the sphincterotomy site between open and closed technique.

Methods

Retrospective review of patients in a single specialty practice undergoing PLIS for chronic anal fissure over a 5 year period. We then identified those patients who underwent either open or closed sphincterotomy. Preoperative variables included age, gender, surgeon, and location of fissure. Post-operative outcomes included surgical site infection, delayed wound healing, need for reoperation, and fissure healing. Statistical analysis was performed using Chi-square and Fisher's exact test.

Results

253 patients were identified, 88 of whom had open sphincterotomy, while 165 had closed sphincterotomy. There were no differences between groups with regard to age, gender, location of fissure and length of follow-up. Compared to the closed technique, the open technique had a higher incidence of surgical site infection (14.8% vs 2.4%, $p < 0.0001$), delayed wound healing (30.7% vs 12.6%, $p = 0.001$) and need for reoperation (9.1% vs 1.8%, $p = 0.018$). There were no differences in fissure healing rates. (Table 1)

Results (continued)

Table 1:

	Open (n=88 pts)	Closed (n=165 pts)	p-value
Infection	13 (14.8%)	4 (2.4%)	<0.0001
Delayed Healing	27 (30.7%)	21 (12.6%)	0.001
Re-operation	8 (9.1%)	3 (1.8%)	0.018
Fissure Healed	82 (93.2%)	163 (98.8%)	0.069

Conclusions

Open and closed sphincterotomy have been shown to be equally efficacious with regard to fissure healing rate.¹⁻⁴ Our study shows that the open technique appears to have a significantly higher wound complication rate, including higher incidence of surgical site infection and delayed wound healing. While the choice of technique is sometimes dictated by the findings at the time of surgery, the closed sphincterotomy appears to be the preferred technique.

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