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Hair epilation versus surgical excision as primary management of pilonidal disease in the pediatric population

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SUMMARY

Pilonidal disease is a chronic, acquired inflammatory process of the skin due to entrapped hair at the natal cleft. Reported recurrence rates are as high as 30%, and recurrence has been attributed to persistent hair near the surgical site. Although conservative measures, such as meticulous hair control and improved perineal hygiene, have been shown to be effective, these techniques typically require much effort on behalf of the patient. Laser hair epilation (LE) might solve this issue of poor patient compliance while helping patients to avoid surgical excision. In this article, we discuss recurrence rates of pilonidal disease in children treated with LE versus surgical excision in relation to findings from our institution between 2005 and 2013 as well as patient satisfaction with the treatment method.

Pilonidal disease is a chronic, acquired inflammatory process of the skin due to entrapped hair at the natal cleft.¹ This is typically a disease of teenagers and young adults, affecting boys up to 3 times more commonly than girls.¹ Other risk factors include obesity, hirsutism and white race.¹ The presentation varies from asymptomatic pits to draining sinuses to painful abscesses. Traditionally, treatment has been surgical. Despite various surgical techniques, reported recurrence rates are as high as 30%, with prolonged recovery times, increased use of resources, repeat surgeries and patient frustration.^{1,2} Optimal treatment of pediatric pilonidal disease remains controversial.³

The recurrence rate after surgical treatment has been attributed to persistent hair near the surgical site.⁴ Laser epilation (LE) has been studied as a tool in the treatment of pilonidal disease and is often used postoperatively to reduce recurrence rates.⁴ Although other conservative measures, such as meticulous hair control and improved perineal hygiene, have been shown to be effective, these techniques typically require much effort on behalf of the patient, and often necessitate assistance from another individual to properly maintain the area.⁵ Laser hair epilation might solve this issue of poor patient compliance while helping patients to avoid surgical excision.

In this article, we discuss recurrence rates of pilonidal disease in children treated with LE versus surgical excision in relation to findings from our institution between 2005 and 2013 as well as patient satisfaction with the treatment method. We discuss findings in 134 children (70 boys, 102 with an abscess) with pilonidal disease: 50 who underwent surgical excision, 33 treated with LE and 51 who opted for observation. The overall mean follow-up was 20.5 (range 0–102) months, but there was some disparity between the surgical excision group (mean 29.6, range 0–102 mo) and the LE group (mean 9.2, range 0–60 mo). Recurrence was more frequent in the LE group than the surgical excision group, but this difference was not significant (55.6% v. 34.0%, $p = 0.11$; Table 1). Loss to follow-up occurred more frequently among children treated with LE than those treated with surgical excision (45.5% v. 6.0%). The presence of an abscess at initial presentation increased the recurrence rate, and more patients who had an abscess at presentation experienced a

recurrence than those who did not have an abscess (surgical excision: 39.4% v. 21.4%, $p = 0.23$; LE: 58.3% v. 50.0%, $p = 0.87$). There were no significant differences in reported quality of life, satisfaction or comfort level among patients, regardless of treatment method (Table 2).

Pilonidal disease is an ongoing challenge, as high recurrence rates persist despite different medical and surgical treatment options.¹⁻³ The variety of described treatments attests to the fact that an ideal solution has not been found. The American Society of Colon and Rectal Surgeons (ASCRS) recommends a trial of gluteal cleft shaving alone or as an adjunctive treatment in the absence of an abscess or an incision and drainage if an abscess is present.⁵ Rather than shaving, LE is also mentioned but not officially recommended owing to insufficient evidence.⁵ The appeal of LE is that it is minimally invasive and well tolerated.⁴ To date, LE has been described only as an adjunct to surgery.⁴ We wondered whether LE alone might obviate the need for surgery.

Although recurrence rates at our institution are comparable to that quoted in the literature (34.7% v. 30%), most of our patients (76.5%) presented with an abscess, which is a well-known risk factor for increased recurrence.³

During a telephone interview, the patients treated with surgical excision and LE expressed frustration with the number of emergency department procedures (e.g. incision and drainage, multiple courses of antibiotics). This frustration prompted them to explore various treatment options, which could account for the increased recurrence rates

among these patients compared with those who were satisfied with observation. It is also possible that the patients in the observation group were much more meticulous with their hygiene than some patients treated with LE, thus explaining the lower recurrence rate. As noted in the ASCRS guidelines, shaving and good hygiene results in fewer hospital visits and surgical procedures.⁵ It has also been established that once a pilonidal sinus recurs, the patient is more likely to keep experiencing recurrences, with decreasing time intervals in between.³

Telephone follow-up revealed that some patients who had been referred for LE declined to pursue this treatment owing to cost. In London, Ont., the average cost for 1 LE treatment is \$150, and the average participant needed 9.5 treatments over several weeks. Although surgical management of pilonidal disease is presumably more expensive (i.e., hospital costs, anesthesiologist costs, surgeon costs), these are not direct costs to the patient. It should be noted that, with a letter from our office, many private insurance plans have covered the costs of LE.

Surgical excision, with or without postoperative LE, remains the standard of care in the treatment of pilonidal disease in pediatric patients at our institution. Patients who initially present with a pilonidal abscess remain at much higher risk of recurrence, regardless of the type of treatment performed. A prospective study is needed to determine whether LE alone with rigorous follow-up could result in similar recurrence rates to surgical excision.

Table 1. Characteristics of recurrence rates of pilonidal disease in 134 patients treated at our institution between 2005 and 2013, by treatment type

Characteristic	Group, no. (%)*			
	Surgical excision, $n = 50$	LE, $n = 33$	Observation, $n = 51$	Total, $n = 134$
Follow-up, mean (range), mo	29.0 (0-102)	9.2 (0-60)	19.0 (0-83)	20.5 (0-102)
Lost to follow-up	3 (6.0)	15 (45.5)	17 (33.3)	35 (26.1)
Recurrence by initial presentation				
Abscess	13 (39.4)	7 (58.3)	8 (28.6)	28 (38.4)
Sinus/pit	3 (21.4)	3 (50)	1 (16.7)	7 (26.9)
Total	16 (34.0)	10 (55.6)	9 (26.5)	35 (35.3)

LE = laser hair epilation.
*Unless otherwise indicated.

Table 2. Responses to telephone interview on patient satisfaction and quality of life, by treatment group

Question	Group; satisfaction rating, mean (range)		
	Surgical excision	LE	Observation
How comfortable was the patient with their choice of therapy?*	4 (1-5)	4 (2-5)	4 (1-5)
How satisfied with the treatment were they?†	4 (1-5)	3 (1-5)	4 (1-5)
Quality of life of the patient: This disease process significantly affected my quality of life.‡	3 (1-5)	4 (2-5)	3 (1-5)

LE = laser hair epilation.
*1 = very uncomfortable, 2 = uncomfortable, 3 = neutral, 4 = comfortable, 5 = very comfortable.
†1 = very unsatisfied, 2 = unsatisfied, 3 = neutral, 4 = satisfied, 5 = very satisfied.
‡1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

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