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RESEARCH ARTICLE

THE OUTCOMES OF SURGICAL INCISION OF PERIANAL ABSCESS UNDER LOCAL ANESTHESIA IN NEONATES LESS THAN ONE MONTH OF AGE

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ABSTRACT

Background: Perianal abscess (PA) is a relatively common condition acquired in infancy, yet its treatment method remains controversial. We reviewed the outcome of neonates with PA who were treated with surgical incision under local anesthesia (LA).
Objective: To show the outcome of surgical incision under LA in most neonates with PA and compare it with using antibiotic alone for decreasing incidence of fistula in ano and no need for incision under general anesthesia.
Patients and Methods: This study involved 48 neonates with PA. In period from April 2016 to December 2017, in outpatient clinic Some of them had undergone incision under LA, while the others, their parents refused surgical incision and were given broad spectrum antibiotics. All of them were followed up for one year to screen for anal fistula.
Results: Out of the 48 neonates, 36 (75%) were males and 12(25%) were females. There were 30 (62.5%) neonates with PA on right side, 16(33.5%) on left side and only two patients (4%) had PA on both sides. The pus of all those neonates were sent for culture and sensitivity and the growth revealed staphylococcus aureus in 72%, E-Coli in 14%, mixed growth in 7% while only 7% developed no growth. Out of the 48 neonates, 28 (51.6 %) had undergone surgical incision under LA (3.5% of them developed perianal fistula) and 20 neonates (48.4%) were given broad spectrum antibiotics (75% of them developed perianal fistula).
Conclusion: Surgical incision under LA is more effective in most neonates with PA. It appears prudent to manage these patients with surgical incision under LA while broad spectrum antibiotic alone may increase the incidence of perianal fistula.

INTRODUCTION

PA is an infection characterized by a collection of pus that has formed under the skin within the soft tissue just outside the anus (Berkow, 1999). The abscess often appears as a raised red lesion under the skin lateral to the anus, where it may grow and become painful (MacFarlane *et al.,* 2000). Some abscesses spontaneously drain pus and heal; others require surgical intervention (McAneney *et al.,* 2000). Some perianal abscesses heal incompletely, with or without surgery, leaving a tiny opening at the site of drainage (anal fistula, or fistula-in-ano), which may or may not require additional surgery (Peters and Edwards, 200). Anorectal (perianal or perirectal) abscess is a relatively common condition in children (Mandell *et al.,* 2000). The vast majority of anorectal abscesses develop spontaneously in completely healthy children and are self-limited.[6] It occurs most often in male infants but it can occur in either sex and at any age (Beers and Berkow, 1999). The exact incidence and prevalence are not well established. The treatment approach varies somewhat by age and, in most instances, differs from that used in adults (Behrman *et al.,* 2000). The overall incidence of anorectal abscesses in children is unknown (Marx *et al.,* 2002; Goldman *et al.,* 2000). It is a relatively common condition seen in a general pediatric or pediatric surgical practice (Blistereri *et al.,* 2000; Berkow *et al.,* 1999). In infants, the pediatric subgroup among whom this condition is most prevalent, the estimated incidence is between 0.5% and 4.3%, with an overwhelming male preponderance (Finegold *et al.,* 2000; Roberts *et al.,* 1998). In older children, anorectal abscesses show no sexual predilection. No racial predilection is reported in any age group (Beers *et al.,* 2000; Malley *et al.,* 2000). Controversies abound in the treatment of perianal and perirectal abscesses (Beers *et al.,* 1999). The use of antibiotics alone (rather than surgical drainage) as a means of definitive treatment with the intention of decreasing the likelihood of eventual fistula-in-ano formation is quite controversial (Behrman *et al.,* 2000; Meislin *et al.,* 2002). However, this study was carried out to show the outcome of surgical incision under LA in most neonates with PA and comparing it with using antibiotic alone for decreasing incidence of fistula in ano and no need for incision under general anesthesia (Christison-Lagay *et al.,* 2007).

PATIENTS AND METHODS

A prospective cohort study was conducted on 48 neonates patients presented with PA attending to Private Surgical Clinic

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In period from April 2016 to December 2017. They were divided into those who underwent surgical drainage and those who did not, and the rate of subsequent fistula formation was determined. Of 48 neonates initially identified, follow-up was available for all of them. When it has been determined that medical management is not sufficient, surgical treatment is indicated. Surgical treatment of a perianal abscess consists of incision and drainage. Most neonates can easily undergo this procedure in the office. A dependable assistant is required to hold the child still. The procedure itself takes little time but is not possible without an experienced pediatric assistant who can firmly hold the baby motionless for the few seconds during which sharp items are being used. The area over the abscess is swabbed with povidone-iodine or an equivalent skin preparation solution. The skin immediately overlying the abscess is anesthetized by using a insulin syringe and local anesthetic to raise a small wheal. Whether this step is warranted is debatable; some believe that the pain caused by the local anesthetic is comparable to the pain caused by the incision. However, the author prefers to use local anesthesia. A No. 11 blade scalpel is used to make an incision directly into the abscess. Pus is then expressed. A simple incision is sufficient, and no packing is required. Once the pus is drained, the remaining local anesthetic in the syringe can serve as a skin wash, and dry gauze is applied. There is usually only minor bleeding, which can be controlled with just a few minutes of pressure. Once the procedure is concluded, the best analgesia is to return the infant to the arms of a parent. After abscess drainage, acetaminophen may be useful for postoperative pain, but most patients feel better once the pus is no longer under pressure. Parents should be counseled that a drop of blood in the diaper or dressing is not unusual but that persistent bleeding is a problem calling for pressure and perhaps a return to the office The opening often closes within several days and resolves completely, but many patients who undergo drainage eventually form a fistula. Dressings are required as only long as the opening is draining. Panty liners make excellent dressings and have an adhesive strip that holds them in place in the underwear.

RESULTS

Out of the 48 neonates, 36 (75%) were males and 12(25%) were females. There were 30 patients (62.5%) had perianal abscess on right side, 16(33.5%) on left side and 2(4%) on both sides of anal orifice. The pus of all these neonates were sent for culture and sensitivity and the growth revealed staphylococcus aureus in 72% and E-Coli in 14%and mixed growth in 7% while 7% developed no growth.

The number of the patients who had undergone surgery under local anesthesia were 28 neonates and only one neonate (3.5%) of them developed fistula whereas the parents of the other 20 patients refused to do surgery to their neonates and were given broad spectrum antibiotics and 15 neonates (75%) of them developed perianal fistulae.

Table 1. Distribution of neonates with PA according to sex

Sex	NO.	%
Male	36	75%
Female	12	25%
Total	48	100%

Table 2. Distribution of the neonates with PA according to the side of anal orifice

Side of PA	NO.	%
Right side	30	62.5%
Left side	16	33.5%
Both sides	2	4%
Total	48	100%

Table 3. Bacterial growth of PA, their number and percentage

Result of bacterial growth	NO.	%
Staphylococcus aureus	20	72%
E-coli	4	14%
Mixed growth	2	7%
No growth	2	7%
Total	28	100%

Table 4. Distribution of perianal fistula in neonates who had undergone surgical incision and who were given broad spectrum antibiotics

Neonates with PA	Total No.	Developed fistula	
		No.	%
Neonates undergone surgery	28	1	3.5%
Neonates given antibiotics	20	15	75%
Total	48	16	33.3%

DISCUSSION

In study done by Serour Francis *et al.* 2005. The study included 98 infants. Perianal abscess was found in 77 patients (75 males), and fistula-in-ano in 21. No infant had an underlying illness. Drainage was performed by needle aspiration in 47 patients and by incision and drainage in 5. Following drainage, 43 patients received antibiotics. Altogether, 6 infants were treated with antibiotics alone and 19 with local care alone. Twenty-eight boys (36.4 percent) had an evolution toward fistula-in-ano. Patients who received antibiotics following drainage were less likely to develop fistula-in-ano than were patients who underwent a drainage procedure alone, All patients with fistula-in-ano were male and had been previously treated for perianal abscess (21 patients elsewhere and 28 in our department). Spontaneous cure of fistula-in-ano occurred in 42.9 percent of them (average 3.2 months), and 57.1 percent underwent fistulectomy for persistent fistula-in-ano. Cryptotomy was added when an involved crypt was found (11 patients, 39.3 percent). No recurrence of fistula-in-ano was noted after fistulectomy. The overall incidence of anorectal abscesses in children is unknown. It is a relatively common condition seen in a general pediatric or pediatric surgical practice. In infants, the pediatric subgroup among whom this condition is most prevalent, the estimated incidence is between 0.5% and 4.3%, with an overwhelming male preponderance. Also, the authors hypothesized that the male predominance of this disorder is secondary to the higher surge of testosterone that previous studies have noted in boys versus girls during the first few months of life. However, this theory was not substantiated in their study, because testosterone levels were not measured in these infants; even if the levels were elevated, that would not prove a direct causal relationship. In older children, anorectal abscesses show no sexual predilection. No racial predilection is reported in any age group. The prognosis of anorectal abscess in children is excellent for all cases. With surgery, the condition will eventually be brought to a successful resolution

with no impact or implications for the future. Children with abscesses who undergo drainage are likely to develop a fistula. Fistulas in children usually resolve without intervention, but some patients require surgery for resolution. Recurrent fistula after fistulotomy in an otherwise healthy child is very unlikely. Anorectal abscesses often present within the first few months of life. A perianal abscess, which in many ways is the same as a small pimple, appears as a red swollen area located just outside the anus; this is usually first noticed during a diaper change and may be tender to the touch. Affected children may appear to be irritable but are commonly asymptomatic. Differentiating simple irritability from true tenderness due to perianal abscess can pose a challenge to the clinician but is important for reassuring parents. Infants with perianal abscesses generally do not have underlying medical conditions that predispose them to abscesses.

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