

Perianal Abscesses: A Clinical Experience in a Tertiary Care Hospital

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ABSTRACT

Background: Perianal abscess is one of the most common general surgical emergencies encountered in clinical practice. Infection of anal glands leads to abscess formation which spread in the inter-sphincteric planes. The initial routine treatment is incision, drainage and curettage, but the most frequent complication regarding this phenomenon is abscess recurrence and subsequent fistula in Ano formation. In an effort to know the exact magnitude of a very complex managing and debilitating disease i.e. fistula in Ano, from a very simple Abscess with simple treatment of incision drainage, various studies are performed in different population, with diverse results.

Objective: To determine the frequency of fistula in Ano (FIA) after incision and drainage of perianal abscesses.

Material and Method: This Descriptive case series study was conducted at Department of surgery, MTI lady Reading Hospital Peshawar, from Jan, 2017 to 2019, on total of 170 patients of perianal abscess, treated initially with incision and drainage, under general anesthesia. Monthly follow-up for six months was scheduled for any complication specially developing Fistula in Ano.

Results: In the current study mean age was 36 years \pm 10.28. Seventy-two patients were male and 28% patients were female. Mean BMI was 25Kg/m². Fistula in Ano among 170 patients was developed in n=73(43%) patients. Mostly in an age group of 41 years to 50 years and with longer duration of symptoms. The BMI and gender had no significance in outcome for Fistula in Ano. While n=97(57%) patients didn't developed any complication of fistula in Ano.

Conclusion: Our study concludes that the frequency of fistula in Ano was 43% after incision and drainage of perianal abscesses with greater chance of developing in younger age group.

Key Word: Perianal abscesses, bacteria, antibiotics sensitivity

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INTRODUCTION

Perianal abscesses are usually considered to arise as idiopathic non-specific infection of cryptoglandular glands in anal region lie in the plan between the internal and external anal sphincter. Which is ranging from acute abscess to chronic fistula formation¹. It is presented as severe pain, tenderness and swelling at perianal area².

Perianal abscess is amongst the foremost the common surgical emergencies come across in clinical practice. Perianal abscess arises from anal glands (6-14) that have a tendency to get obstructed and suppurated resulting in development of abscess and then spread along potential inter-sphincter space of anal canal. Surgical intervention is suggested even in cases of spontaneously discharged abscess, because inadequate drainage could result in recurrent abscess and/or later fistula formation. Whereas the routine treatment of perianal abscess is incision, drainage and curettage. The Perianal abscesses recurrence is a common complication after incision and drainage (I&D) which may account for later development of anal fistula formation or may typically be considered an

inevitable burden on health system and surgical workload found concurrently^{3, 4}. Procedures such as fistulotomy /fistulectomy could also be added for treating concomitant fistula, which is present in about 40% of patients. Conservative treatment choices, like antibiotic treatment, are unlikely effective and don't seem to be acceptable. After incision and drainage (I & D) of perianal abscess, the prevalence of fistula formation is reported as 16% and abscess recurrence rate is 13%.

In most cases Abscess formation and fistula are synchronous. one study suggests about 1000 primary fistulotomies were performed with no adverse outcome⁶. Development of fistula in an inadequate drainage of perianal abscess is the most anticipated outcome. The perineum should be examined during drainage for any fistula. If a concomitant superficial fistula is found, primary fistulotomy could be considered, or employing loose seton to act as continuous drain. This can be considered as curative intent and avoid the need for subsequent surgical procedures. Anyhow, about two thirds of perianal abscesses did not progress to fistulas formation. The patients who are candidates for primary fistulotomy i.e. low lying superficial, are considered for delayed fistulotomy with following low morbidity⁷⁻⁹.

The study of Hasan R M, had presented the frequency of fistula as 45.58%, While the frequency of fistula was 31% in a study conducted by Lohsiriwat V, et al. after incision/drainage of perianal abscess^{6,12}.

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Then again, about two thirds of perianal abscesses never progress to fistulas formation and the subsequent fistula can be handled later with low morbidity and better outcome. Thus, the most accepted strategy would be to concede fistulotomy till the fistula becomes apparent.

No such study has been done before in our native population. Results of various studies¹³⁻¹⁵ have variable results in different populations thus these results can't be generalized on all population, thus I even have planned to work out the frequency of fistula when incision/drainage of perianal abscesses in our native population, results of my study can generate the native proof and pave the approach for more analysis during the topic.

MATERIAL AND METHODS

This study was a descriptive Case Series, conducted at Department of General Surgery, LRH, and Peshawar from 29/1/2017 to 29/1/2019

The Sample size was taken 170, after calculated by using 45.58% prevalence of (fistula in ano)⁷, 7.5% margin of error and 95% confidence interval in WHO formula for sample size calculation.

Non-probability consecutive sampling was done.

Operational definition:

Peri-Anal Abscess:

Perianal abscess is defined as a localized collection of infected fluid within the soft tissue of the perianal region¹.

Inclusion Criteria:

- Patient age 20-60 years
- Both gender
- Perianal abscesses as per operational definition

Exclusion Criteria:

- Abscess with known/obvious fistula in Ano
- Complicated abscesses
- Inflammatory bowel diseases e.g. Crohn's disease
- Systemic Autoimmune/ Metabolic disease e.g. Diabetes mellites
- Immunocompromised patients e.g. Malignancy
- Necrotizing fasciitis

Data Collection Procedure

A total of 170 patients were included in our study on the basis of inclusion criteria. A detailed written informed consent was obtained. Demographic information was noted like age, gender, duration of complain, weight on weighing machine, height on height scale and BMI (BMI was calculated by using the formula: weight (in kilogram) divided by height (in meters) squared (Kg/m^2)). All the patients underwent incision drainage of the abscess under general anesthesia, allows thorough examination for position and extent of abscess. patients were followed monthly for 6 months.

After 6 months, fistula in Ano was assessed per operational definition and recorded on designed proforma (Annexure-I).

Data Analysis

Data was analyzed with statistical analysis program (IBM-SPSS.V.22). Frequency and percentage were computed for qualitative variables like gender, poor family status and fistula in ano. Mean \pm SD was presented for quantitative variables like age, duration of complain, weight, height and BMI. Stratification was done for effect modifiers age, gender, BMI, poor family status and duration of complain. Post stratification chi square test was applied, $P = 0.05$ was considered statistically significant.

RESULTS

In our study, total of 170 patients, who underwent incision and drainage for perianal Abscess were included. Mean age was 36 ± 10.28 years, ranged from 20 to 50 years.

There were 122(72%) male and 48(28%) females' patients.

About 70(41%) patients presented in less than 3 weeks' time after symptoms appeared, while 100(59%) patients presented after more than three weeks of symptoms.

BMI analyzed in total showed as 77(45%) patients had BMI $< 25 \text{ Kg/m}^2$ whereas 93(55%) patients had BMI $> 25 \text{ Kg/m}^2$. Mean BMI was 25 Kg/m^2 .

During follow-up period of six months, 73(43%) patients had recorded fistula in ano. while 97(57%) patients were declared symptoms/ complication free.

TABLE NO 1. AGE WISE DISTRIBUTION (n=170)

Fistula in Ano	20-30 years	31-40 years	41-50 years	Total	P value
Yes	12 16.4%	29 39.7 %	32 43.8%	73 100%	0.9853
No	15 15.5 %	39 40.3%	43 44.3%	97 100%	
Total	27	68	75	170	

TABLE NO 2. GENDER WISE DISTRIBUTION (n=170)

Fistula in Ano	Male	Female	Total	P value
Yes	52 71.2%	21 28.7%	73 100%	0.8937
No	70 72.1%	27 27.8%	97 100%	
Total	122	48	170	

TABLE NO 3. DURATION OF COMPLAINS (n=170)

Fistula in Ano	> 3 weeks	> 3 weeks	Total	P value
Yes	30 42.9%	43 43%	73 100%	0.8937
No	40 41%	57 58.7%	97 100%	
Total	70	100	170	

DISCUSSION

Perianal abscess is amongst the common surgical emergencies encountered and is managed by I&D and proper curettage. Conservative treatment with medication is unlikely successful. Despite the development in medical science the recurrence of abscess and fistula in ano formation are still the most serious and prevalent complication. Even after primary I & D and is considered inevitable complication. Many studies are carried out to evaluate the outcome and showed concern about the surgical techniques and initial diagnosis. In our study the mean age was 36 years \pm 10.28. Seventy-two patients were male and twenty-eight were female. Mean BMI was 25 Kg/m₂. Amongst all the total of 170 patients, 73(43%) patients had developed fistula in ano during follow up period of six months. While the rest goes uneventful.

Similar results were shown in another studies e.g study conducted by Hasan R M⁶. in which the n=68 of preanal abscess were analyzed with the median age of thirty-nine years (range 20-68). Although no age is immune to this disease and outcome, we were limited to adult age group in our study.¹¹ The follow-up period was ranging from 12 to 24 months. Likewise, male represented major bulk with n 63 (92.64 %). While only n 5 (7.35 %) were female. The incidence of fistula formation during follow up period was recorded as n= 31 (45.58 %) in males and n=1 (1.47 %) were female. Men are more frequently affected than women, with a male-to-female predominance of 2:1 to 3:1¹¹. The patient with recurrent abscess n=6 (8.82 %) in male it was n=4 (5.88 %) and female n=2(2.94%).

Similar outcomes were observed in another study by Lohsiriwat V et al⁷. His study included 50 males and 14 females with age of patients ranging from 19 to 82 years. The average follow-up period was 30 months (range 10-53). In n 20 (31%) of patients, fistula-in-ano after initial incision and drainage was recorded. Further analysis displayed that patients younger than 40 years and non-diabetic tended to have an increased risk for developing the fistula in ano but not to a significant level. Anyhow, patients who had received perioperative antibiotics were less likely to develop fistula.

In another study conducted by Hämäläinen KP⁹ had reported that n 54(37%) patients developed fistula, while n= 15 (10 %) had recurrent abscess. Contrary to our findings incidence of fistula was significantly higher in females than in males (50 % vs. 31 %) (P = 0.0403). The other interesting findings in that study was the higher incidence of fistula formation with Escherichia coli growth on culture in comparison with other pathogens. (46% vs. 27%) (P = 0.0368).

CONCLUSION

Our study concludes that the frequency of fistula in Ano was 43% after I&D of perianal abscesses in our population. The fistula may or may not be present concomitantly, but should be attempted at later stage when obvious.

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AUTHOR'S CONTRIBUTION

The following authors full fill authorship criteria as per ICMJE guidelines;

Gul A: Idea conception, drafting the work, final approval, agreed to be accountable for all the work.

Faraz A: Design of the work, data acquisition, critical revision, final approval, agreed to be accountable for all the work.

Kalim M: Data analysis, drafting of the work, final approval, agreed to be accountable for all the work.

Khan MF: Data interpretation, critical revision, final approval, agreed to be accountable for all the work.