

ORIGINAL RESEARCH

Packing Of Perianal Abscess Cavity; Does It Offer Any Advantage? A Prospective Clinical Study

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Received: 14 November, 2022

Accepted: 18 December, 2022

ABSTRACT

Purpose: Traditionally packing of Abscess Cavity was a sine qua non of perianal abscesses treatment. Recently the practice has been challenged, with many randomised control trials demonstrating a potentially deleterious affect on patient satisfaction and with no obvious advantages, besides putting a significant burden on healthcare resources. This study was designed to purport the fact that Perianal Abscess can be managed sufficiently fairly by incision and drainage alone.

Methods: The patients were divided into two groups after incision drainage of anorectal abscess, non-packing and packing group. Out of 160 Patients, 48 in Packing Group (PG) and 55 in Non-Packing Group (NPG) were included in the final results. Wound healing, pain during Pack removal and reinsertion, patient satisfaction towards surgery, recurrences and formation of fistulas were studied amongst two groups. The primary aim was to study the healing of wound; recurrence, fistula formation and patient satisfaction as secondary factors. Patients with chronic perianal fistulas (Crohn's, malignancy, immunosuppressed), recurrent or horseshoe abscess were excluded from the study, as were the patients not consenting to be the part of study.

Results: Males predominated the study 81(78%), 12(11%) patients were diabetic and 52(50%) smokers. The baseline parameters such as Hb, TLC, and PLT also did not show any significant difference, the mean Hb in PG Vs NPG was 9.54 ± 1.3 vs 9.85 ± 1.3 , mean age of presentation varied 41.5 years in NPG Vs 43 years in PG, all other baseline characteristics were similarly distributed between two groups as were the risk factors such as smoking and diabetes. Time to complete healing was only 28 days (14-120) in NPG Vs 33 days (20-180) in PG, which was however was not statistically significant. There was no significant difference between the groups regarding development of fistula ($p=0.78$), rates of abscess recurrence ($p=0.57$). Patient satisfaction scores at two and six weeks in NPG were significantly higher than PG, $P<0.001$, however at six months these were almost similar in both groups. Dressing changes were very painful in 64% patients in PG as Opposed to only 3% in NPG, $P<0.001$. The patients in NPG were pretty satisfied with their surgery except for frequent changes in pads due to

soiling particularly during the first week. The satisfaction scores again dropped if the wound didn't heal or fistula formation was considered by treating doctors.

Conclusion: Our study demonstrates that perianal abscess patient can be managed without packing. Packing is not only painful, but offers no significant advantage over non packing.

Key words: Perianal Abscess, Fistula-in-Ano, Packing of fistula tract, Non-Packing of fistula tract, Patient Satisfaction, Wound healing.

INTRODUCTION

Perianal abscesses are a surgical emergency and need prompt treatment. They are twice as common in males than females [1]. Predominantly cryptoglandular in origin, they are thought to originate largely from blockage or infection of anal glands leading to suppuration which can collect in perianal, intersphincteric, ischioanal and supralevator spaces. Inflammatory bowel diseases especially Crohn's disease, diabetes, smoking and immunodeficiency (AIDS) are other causes[2]. These abscesses can progress to fistula formation (40%)[3] or fistulas can present as index presentation(Acute Fistulas)[4]. Perianal abscesses usually present with short history of well localized severe pain, along-with palpable induration and tenderness around perianal area. The other types usually don't show much perianal signs, although systemic signs and intrarectal tenderness can be there. Usually, patients report as surgical emergency and need immediate treatment.

A good history, digital rectal and proctoscopic examinations are all that is required for diagnosis. Patients with complex abscess, fistula or recurrences generally require a MRI or CT to assess the extent and position in respect to sphincters and pelvic diaphragm. Apart from mild leucocytosis there is not much in lab tests, except if the patient is in sepsis. Infection is generally polymicrobial in origin with predominance of anaerobic bacteria such as *Bacteroides fragilis*, *Peptostreptococcus*, *Prevotella*, *Fusobacterium*, *Porphyromonas*, *Clostridium* species, *Staphylococcus aureus*, *Streptococcus*, and *Escherichia coli*[5]

Management of perianal abscess involves prompt Incision and Drainage (I/D) under general anaesthesia. The incision should be sufficiently large enough to provide for adequate drainage and should be as close to anal verge as possible. The wound is packed with a saline soaked gauze for initial haemorrhage control, subsequently the pack is removed next morning followed by dressing and repacking until the wound is healed[6]. Packing is thought to protect against formation of fistulas and avoid recurrence of abscesses and improve wound healing, whether it really works has been a matter of serious debate with many studies negating the so called protective affect[7-9]. Packing has generally been discouraged in perianal abscesses due to severe degree of pain associated with it leading to poor quality of life and dissatisfaction with surgery[7].

Many alternative treatment methods have been studied, the earliest being the curettage and primary closure by Ellis[10] in 1960, this approach is not been advocated owing to inconsistent results. De Pezzer catheter placement after Incision and Drainage in place of packing is another form of treatment first reported by Isbister[11] in 1987, many studies have advocated the feasibility of this approach and results similar to the traditional packing [12-14]. Recently a randomised trial comparing needle aspiration with antibiotics vs I/D for perianal abscess described very high recurrence rate in the former group[15].

METHODS

Patients admitted with primary perianal abscess within April 2019- April 2022 in Government Medical college Anantnag, J&K, India. A prospective analysis of 160 patients 69 in Non-Packing(NPG) and 91 in Packing Group(PG); 15(21%) were lost to follow up, 6 crossed over to packing in NP group; and 26(28%) were lost to follow up, 10 received both

treatment at different stages in Packing Group(PG). Thus, out of 103 patients, 48 patients in NP group and 55 patients in packing were included in the final results. The primary aim was to study the healing of wound; recurrence, fistula formation and patient satisfaction as secondary factors. The study needed to be stretched owing to greater part of study fell in COVID-19 restrictions and the may be the reason for such a large number of patients lost to follow-up.

Ethical clearance was sought and provided through institutional review board, patients were required to fill the proforma as per the predefined questionnaire. The study protocol complies with the STROBE Guidelines (Equator Network, NDORMS, University of Oxford) for Cohort Studies.

Informed consent was obtained from all the participants and the patients not consenting were excluded from the study.

INCLUSION CRITERIA

All patients above 18 years with acute perianal abscess were included in the study

EXCLUSION CRITERIA

The patients who did not wish to be the part of study. Patients with chronic perianal fistulas (Crohn's, malignancy, immunosuppressed), patients with recurrent or horseshoe abscess.

PATIENT SELECTION

Packing or non-packing was left at the discretion of the operating surgeon, with every alternate patient being selected for non-packing, unless there were consent issues.

INTERVENTION

Under General Anaesthesia, standard I/D was done by a cruciate incision with cutting of edges of flaps, all the pus loci were broken bluntly. No attempt was made to probe in search of primary fistula. A haemostatic gauge pack was placed in all patients and removed on postoperative day 1. Further packing and non-packing were done for every alternate patient admitted. Patient were discharged on PO Day 1 with clear instruction on dressing with packs or without at their hometown local primary care centres. All patients got a single shot of antibiotic (Piperacillin+tazobactam) 30 min prior to incision and two more doses if presence of cellulitis or fever was noted after that oral antibiotics were given as indicated.

Follow-up- every two weeks until wound healing, patient satisfaction of surgical procedure at 2 weeks, 6 weeks and at 6 months. How painful were dressing changes, graded as 1-3, no pain, mild pain(bearable), severe pain respectively. Patient satisfaction was graded from 1 to 10, 1 being the least satisfied and 10 most satisfied. Patients who did not report to OPD were questioned telephonically.

Statistical Analysis

IBM SPSS 20.0 (SPSS Inc. Chicago, IL, USA) was used for statistical analysis. Tests for normal distribution, did not conform to a normal distribution. Therefore, nonparametric statistical methods were applied. Categorical variables were analysed by chi square and fishers exact test as appropriate, continuous data is presented as mean \pm SD and analysed by students t-test. A two tailed significance value of 0.05 was used for both the tests.

RESULTS

A total of 103 patients were enrolled and the results formulated upon, Males predominance is noteworthy nearly 81(78%), about 12(11%) patients were diabetic and 52(50%) smokers in overall study, there was no statistically significant difference in distribution of these parameters among the treatment groups. The baseline parameters such as Hb & TLC also did

not show any significant difference, the mean Hb in PG Vs NPG was 9.54 ± 1.3 vs 9.85 ± 1.3 and the mean age of presentation varied 41.5 years in NPG Vs 43 years in PG. The mean BMI was 21.41 ± 2.9 in PG as opposed to 21.06 ± 2.22 in NPG (Table-1)

Table 1: Demographic Parameters

Groups	Packing(PG)	Non-Packing(NPG)	P-Value
Number of patients	48	55	
Age (mean \pm SD)	41.54 \pm 7.2	43.05 \pm 6.65	0.27
TLC($\times 10^3/\mu$ l)	8.44 \pm 1.3	8.50 \pm 1.3	0.80
sex(n,%)			1.00
Male	43(78%)	38(79%)	
female	12(22%)	10(21%)	
Hb g/dl (mean \pm SD)	9.8521 \pm 1.3	9.5418 \pm 1.3	0.23
BMI (mean \pm SD)	21.41 \pm 2.9	21.06 \pm 2.22	0.49
Diabetes(n,%)	7(13%)	5(10%)	0.76
Smokers (n,%)	27(49%)	25(52%)	

The time to complete wound healing, defined as complete re-epithelization of tract was 28 days(14-120) in NPG Vs 33 days(20-180) in PG, there were 5(9.1%) recurrences in PG compared to 7(15.9%) in NPG group in median follow-up of 10 months. Twelve patients had delayed wound healing, defined as non-healing at 3months, out of these 7 were subsequently found to have a fistula at 6 months follow-up (Table-2).

Table 2: Post Operative Parameters

Groups	Packing(PG)	Non-Packing(NPG)	P-Value
Healing Time, days, range	37(20-180)	29(14-120)	0.15
Recurrences(n,%)	8(14%)	5(10%)	0.57
Delayed wound Healing(n,%)	7(13%)	5(10%)	0.76
Fistula (n,%)	9(16%)	6(13%)	0.78

There were 6(12.5%) patients with fistula in NPG Vs 9(16%) in PG, these patients subsequently required fistula surgeries, 7 required fistulotomy, 8 were managed by seton placement, as these were complex fistulae. As regarding development of post-operative fistula, 9(16%) in PG group and 6(13%) in NPG were diagnosed as having fistula, which was not statistically significant.

The patient satisfaction scores were graded from 1-10, 1 being the worse and 10 the best possible score. The patient satisfaction was recorded at 2, 6 weeks and 6 months. Its noteworthy that patient satisfaction scores very fairly poor for PG especially in the initial 2 weeks mean score of 5.07 as against 7.71 in the NPG, the most important reason being the packing which was considerably painful, the satisfaction scores in NPG were consistently good at 6 weeks 6.65, 7.49 Vs 7.56, 7.73 respectively P value=0.03 (Table 3).

Table 3: Patient Satisfaction with Surgery

Groups	Packing Group	Non-Packing Group	P-Value
Discomfort on Dressing Changes			<0.001

(n,%)			
No pain	2(4%)	24(50%)	
Mild	18(33%)	21(44%)	
Pain(Bearable)	35(64%)	3(6%)	
Severe Pain			
Patient satisfaction Score at 2weeks	5.07±1.4	7.71±1.1	<0.001
Patient satisfaction Score at 6 weeks	6.65±2.4	7.56±1.6	0.03
Patient satisfaction Score at 6 months	7.49±2.9	7.73±2.9	0.66

However, at 6 months the satisfaction score were more or less the same, coinciding with the time period in which most wounds heal. Dressing changes were very painful for 35(64%) patients in PG as against 3(6%) in NPG, the difference was statistically significant with a P value of <0.001 (Table-3). Dressing changes in 50% of patients in NPG group were not Painful at all, though mild pain was experienced by 44% of patients. The patients in NPG were pretty satisfied with their surgery except for frequent changes in pads due to soiling, particularly during the first week. The satisfaction scores again dropped if the wound didn't heal or fistula formation was considered by treating doctors.

DISCUSSION

The treatment of Perianal abscess hasn't changed much since times immemorial, incision drainage along with packing of the abscess cavity has been the procedure of choice. Packing of the cavity leads to much of the discomfort to the patient leading ultimately to dissatisfaction towards surgery as has been shown by PPAC 2 trial[7], which found that patients subjected to no packing favoured very well on pain scores (38.2 versus 28.2, mean difference 9.9; P< 0.0001), with no major differences in rates of recurrence of abscess and fistula development, neither it showed any significant differences in overall healing of wounds. Traditionally it has been a custom to pack in abscess cavity, in belief that it reduces fistula and recurrences, which really isn't the case as has been consistently shown in many studies and also pointed out by this study.

In west emphasis is on the reduction of health care costs and reduce unnecessary burden on health care, L. Pearce et al[6] from NHS trust equates the cost of changing packs to 6453360 euros annually in England and also two to three fold increase in pain scores during and after dressing changes, although our study did not study pain or hospital costs as primary objective, about 64% in PG should significant discomfort to pack changes affecting their satisfaction with the surgery.

Whether concomitant fistulotomy should be performed is a matter of debate, the contesting views being based on serious questions that need to be addressed before arriving at some common point. Anorectal abscess are generally taken care in accident emergency by junior surgical fellows & performed usually after-hours, should we entrust fistulotomy which entails lot of manipulation and risks incontinence, to residents needs to be invoked upon. The fact being echoed by many studies(16-17) and a chochrane review of six trials involving 479 patients does affirm that fistula rates and recurrences are reduced by concomitant fistulotomy but with the caveat, increase in rates of postoperative incontinence (relative risk 3.06) at one-year follow-up. A recent study from UK showed that involvement of consultants greatly increased the rate of fistula identification and the subsequent treatment, 50% in consultant group Vs only 12% in registrar group[18].

In 1990, a study from Wellington School of Medicine, New Zealand [19] compared traditional packing vs de pezzet catheter; concluding that the catheter was well tolerated with no need of serial dressings at district hospital. Helen et al [12] in 2019 reported use of mushroom catheters for anorectal abscesses achieving a statistically significant patient satisfaction scores (9.2 ± 1.0 vs 7.6 ± 1.8) compared to traditional methods of packing. There are other studies comparing packing with various types of drains and catheters, the very fact that the drain requires experts to maintain and dress, can be uncomfortable if not painful; negates the advantages of non-packing such as self-care and a proposed less burden on health care facilities besides cost cutting.

LIMITATIONS

The study was affected a great by the COVID-19 pandemic, leading to frequent halts in study and loss of patient follow-up. Disruption of operating theatres from time to time during pandemic peaks to divert resources for increasing demands of dedicated ICU's. Perianal abscess generally affects young people and this subgroup of population forms the backbone of the workforce and as such is most difficult to keep track off.

CONCLUSION

Perineal abscesses can be managed fairly by avoiding the traditional method of packing which besides being painful and traumatic to the patient, doesn't provide much of an advantage as far as recurrence of abscesses, fistula formation or healing of the wounds is concerned. A well-designed large scale RCT would surely help us in being more pragmatic and inculcate good clinical practice guidelines as far as the management of perineal abscesses is concerned.

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