



A study assessing postoperative Corrugate Rubber drain of perianal abscess



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HIGHLIGHTS

- Management of perianal abscess involves cruciate incision over the abscess and drainage by using Corrugate Rubber drain as another method of drainage and an alternative to other methods like packing by assessing healing of perianal abscess, recurrence and fistula development.
- This study was an observational retrospective review of 137 'case series' of patients with perianal abscess over a fifteen-year period from January 2000 to December 2015. 67 patients in group A were managed by Corrugated Rubber drain and 70 patients in group B were managed by packing.
- In group A, males were 92.53% more than females (7.46%) while group B, males were 85.71% and the rest were females. Outcome measures were assessed; time to cavity healing, pain scoring, abscess recurrence, fistula formation, analgesic requirement and skin disfigurement.
- The mean time of abscess healing in group A and B were 8.50 ± 0.49 and 8.90 ± 0.23 days respectively. Their pain score using Corrugate Rubber drain postoperative were 2/10 in group A while group B was 8/10.
- Most of patients in group A needed mild analgesia (52/67) (77.61%). The rate of abscess recurrence and fistula development were (22/67) (32.83%) and (21/67) (31.34%) respectively in group A which is significantly lower than group B.
- Management of perianal abscess using Corrugate Rubber drain is better than other methods used regarding the outcome measures like pain relief is usually immediate. Bleeding and drainage usually subside within a few days.
- The wounds heal over a matter of a few weeks and low recurrence rate and fistula formation. This resulted in low morbidity and cost.

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ABSTRACT

Background: Perianal abscess which can lead to a devastating complications. The management of perianal abscess involves incision and drainage by different methods one of them is packing the cavity.

Aim of the study: The aim is using Corrugate Rubber drain as an alternative to other methods.

Patients and methods: This study was an observational retrospective review of 137 'case series' of patients with perianal abscess over a fifteen-year period from January 2000 to December 2015. 67 patients in group A were managed by Corrugated Rubber drain and 70 patients in group B were managed by packing. In group A, males were 92.53% more than females (7.46%) while group B, males were 85.71% and the rest were females. Outcome measures were assessed; time to cavity healing, pain scoring, abscess recurrence, fistula formation, analgesic requirement and skin disfigurement.

Results: The mean time of abscess healing in group A and B were 8.50 ± 0.49 and 8.90 ± 0.23 days respectively. Their pain score using Corrugate Rubber drain postoperative were 2/10 in group A while group B was 8/10. Most of patients in group A needed mild analgesia (52/67) (77.61%). The rate of abscess recurrence and fistula development were (22/67) (32.83%) and (21/67) (31.34%) respectively in group A which is significantly lower than group B.

Conclusions: Management of perianal abscess using Corrugate Rubber drain in compares with packing leads to immediate pain relief, low recurrence rate of abscess and fistula formation, without need to expert nursing and less ugly scar formation. This resulted in low morbidity and cost.

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1. Introduction

A perianal abscess is an infection of the soft tissue surrounding the anal canal with collection of pus in the perianal tissues. Pus can

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extend into the ischioanal fossa, on one or both sides, finally form a horse-shoe shaped collection of pus, or track up towards and through the levator ani muscles [1]. The incidence of anorectal abscesses is difficult to accurately access because they are either drain spontaneously or are incised and drained in a physician's clinic, emergency room, or an operating room [2]. Therefore, among 1000 patients with anorectal pathology that presented to the Surgical Section of the Diagnostic Clinic at the University of Virginia, 0.4% of them had anorectal abscesses [3].

The most common aetiology of perianal abscesses arise from the cryptoglandular tissue (proctodeal glands) of the intersphincteric space, the occluded duct of an anal gland with subsequent bacterial overgrowth and later abscess formation that extend between the internal and external sphincter, reach the anal verge to become a perianal abscess [4]. Other causes may be identified such as Crohn's disease, malignancy, AIDS, or other immunosuppressive disorders [5].

Many methods have been proposed for the treatment of an anorectal abscess [6]. The old method is incision of abscess, curettage, instillation of antibiotics and primary closure by suturing advocated in the 1950s by Goligher and Ellis in 1960 [7,8]. This procedure was also adopted by Leaper et al., 1976 and Barnes SM and Milsom 1988 [9,10]. Another alternative method that described by Isbister in 1987 [11] and Kyle and Isbister in 1990 [12] that used de Pezzer catheter with reduced requirement for general anesthesia and nursing. Management of perianal abscess involves an adequate incision or excision of the overlying skin, drainage and packing of the residual cavity by non adhesive alginate dressing allowing wound healing by secondary intention and the prevention of an acute recurrence by preventing the premature closure of the incision [13]. The use of corrugated drain as a method of drainage is not new in perianal abscess but the use is variable depending on abscess location and consultants' surgeons' preference. So, this study aimed to use Corrugate Rubber drain as an alternative method in management perianal abscess compared with packing method by assessing rate of healing, abscess recurrence, and fistula development.

2. Patients and methods

The study consists of 137 patients who presented to different hospitals (Al-Kindy Teaching Hospitals and private Hospitals) in Baghdad with an abscess in the perianal area over a fifteen-year period from January 2000 to December 2015. Their ages were ranged from 20 to 68 years (39.94 ± 0.16). The inclusion criteria were adults aged eighteen years and above who presented with a perianal abscess for the first time, while the exclusion criteria were patients under eighteen years, who had abscess with known fistula, had other forms of interventions like Penrose, Pezzer catheter and curettage, Crohn's disease, immunosuppression, malignancy, diabetes mellitus, pyoderma skin infections and pilonidal abscess. The Scientific and Ethical Committee of Al-Kindy medical college and Hospitals had approved the study. Written informed consents were obtained from the patients with perianal abscesses.

Interference: Patients were categorized in two randomized groups and followed prospectively: Group A consisted of 67 patients all of them treated with incision over the abscess with evacuation of all pus and necrotic material and deep drainage of the abscess cavity was done using an insertion of a piece of corrugated rubber drain (Corrugated Drainage Sheet; Model: GMS-CP, Diameters and size was 25 mm \times 400 mm, supplied by Ghatwary medical supply (GMS)- Borg El-Arab El-Gedida- Egypt/Manufactured by SANICOMP, S.L., Barcelona, Spain). The drain is fixed by a suture of corrugate drain at the end of the wound. Group B consisted of 70 patients all of them were treated with cruciate incision

over the abscess next to the anus under anesthesia (local or general) with evacuation of all pus and necrotic material and packing the abscess cavity. Then a superficial protective dressing was applied to absorb any purulent and bloody discharge from the abscess cavity and protect the open wound. Patients were advised to stand for a long time to allow drainage by gravity, bulk-forming fiber laxatives, keep area clean as possible and manage their own wound until follow-up. Drain was removed after seven days and as soon as there was no purulent discharge.

The outcome measures were time to cavity healing was apparent, cavity being closed and the skin completely re-epithelialised. Pain scoring was achieved via a standard 10-cm Visual Analog Scale for pain administered postoperatively and after two weeks to assess the pain for the whole period of treatment. The pain scoring was: no pain (0–4 mm), mild pain (5–44 mm), moderate pain (45–74 mm) and severe pain (75–100 mm) [14]. Other measures were assessed like abscess recurrence, fistula formation, analgesic requirement (non steroidal anti-inflammatory and paracetamol – based analgesia) during post-operative course and skin disfigurement.

Follow-up: The patients were followed up for a minimum two weeks for abscess completely healing and recurrence in the out patients hospital or private clinics.

2.1. Statistical analysis

Data were presented as mean \pm standard error mean and percentages. Statistical analysis was evaluated using Chi square and Fisher Exact test using MINITAB statistical software 13.20. Inc. Pennsylvania-USA.

3. Results

A total of 137 patients presented with perianal abscess, their ages were ranged from 20 to 68 years (39.94 ± 0.16). Patients were grouped into two groups; Group A consisted of 67 patients managed with incision and drained with corrugate drain. 62 were males (92.53%) and 5 were females (7.46%). Their ages were ranged between 20 and 68 years, median was 39 (Interquartile range (IQR) (14.00)). The second group was group B that involved 70 patients with perianal abscess managed with cruciate incision and drained by packing. Their ages were 21–67 years (median was 38(13.00). Male to female ratio was 60:10.

The most common symptoms included tender swelling, anal pain and fever. The median duration of these symptoms in both groups were four days (Interquartile range (IQR) (5.00)), ranged from 4 to 10 days. The median follow up period of both groups was 20 weeks (Interquartile range (IQR) (92.00)) as shown in Table 1. There was a significant difference ($P = 0.000$) between males and females.

The most common location of perianal abscess of the patients was posterior to anus in both groups (36 cases) (53.73%) in group A and (41 patients, 58.57%) in group B. There is no significant difference in abscess location between two groups. Regarding the most common site of fistula formation after follow-up was left lateral (9 cases) (42.85%) in group A and 13 cases (38.23%) in group B as demonstrated in Table 2.

The outcome measures of management of perianal abscess using Corrugate Rubber drain compared with group B that was managed by packing was shown in Table 3. There is a significant difference between two groups regarding pain score, abscess recurrence rate, fistula formation, used of analgesia and ugly scar formation. Group A pain score in the immediate postoperative period and two weeks after surgery were 2/10 and 1/10 respectively while group B, median score pain after operation was 8.00

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