



Evaluation of Fustulectomy and Primary Skin Grafting in Low Fistula in Ano

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Abstract

Fistulectomy followed by healing by secondary intention, even though, the most commonly used technique for treatment of low fistula-in-ano has its associated post-operative long healing time and morbidity. A better alternative in the form of Fistulectomy and Primary Skin grafting for low fistula-in-ano was tried on 25 patients over a period of 2 years in the Department of Surgery, Government Medical College, Jammu. It was good for patients as it was cost-effective and it decreased the morbidity of the patient by decreasing the post-Operative hospitalisation time, total healing time, total number of dressings required, and perianal complications. We conclude that it is better alternative for treatment of low fistula-in-ano.

Key Words

Fistula-in-ano, Anal Sphincter, Primary Skin grafting.

Introduction

Fistula-in-ano is an age old problem involving the ano-rectal region. It is notorious for its chronicity, recurrences and frequent acute exacerbations.

Various aetiological factors involved in the formation of fistula-in-ano are:- previous anorectal abscesses; tuberculosis; ulcerative colitis; crohn's disease; any other abdominal conditions producing a pelvic -abscess as acute appendicitis, sigmoid diverticulitis, salpingo-oophoritis, presacral dermoid cyst, carcinoma of the rectum and anal canal especially colloid lymphogranuloma venereum; actinomycosis of the anorectal region; and rectal, obsterical or gynaecological operations. The most important presenting complaint of patients with an anal fistula is discharge of pus. It is essentially a painless condition but if discharge ceases temporarily and pus accumulates to form a

recurrent abscess, pain is experienced till the abscess bursts, which give immediate relief. Soreness and itching of the perianal skin are common due to the moist sodden condition of the skin.

Parks (1) classified fistula in ano into four major groups: Inter sphincteric fistula; trans-sphincteric fistula; supra sphincteric fistula and extra-sphincteric fistula.

Prior to treatment, various methods are used to asses fistula-in-ano; inspection, palpation, application of Goodsall's law, passage of a probe, proctoscopy, sigmoidoscopy and radiological examinations as fistulography(2), magnetic resonance imaging(3,4) and endosonography.

Various treatment modalities have been used for fistula-in-ano as injection of medicaments such as 3 or 4% solution of silver nitrate, or bismuth

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paste into the fistula, which is now a days obsolete; laying open the fistula and allowing the wound to heal by granulation (5); laying open the fistula or excision of fistula followed by immediate skin grafting(6-9); laying open or excision of the fistulous track followed by primary suture; open coring out (function preserving) technique for low fistula (10); destruction of fistulous track with CO_2 laser beam(11); use of seton in the fistula especially complex fistulae (12); repair of fistula-in-ano using fibrin adhesive (13); total excision and primary sphincter reconstruction in treatment of recurrent high fistulae (14). Out of above methods, fistulectomy and primary skin grafting was never done in GMC-Jammu. We performed this method in patients with low anal fistula and evaluated our results.

Materials and Methods

Twenty five patients of all age groups who were suffering from fistula in ano and seeking treatment in Postgraduate Department of Surgery, Government Medical College, Jammu and Associated Hospitals were taken up for the study. These patients were admitted in surgical wards and taken up for surgery after investigations.

A low spinal or epidural anaesthesia was usually employed. The patient was put in prone jack-knife position. The surgeon prepared the donor area for skin graft whereas the assistant prepared the perineum using 10% betadine lotion. The area was draped and right/left thigh was kept covered with a sterile sheet till it was required for taking the graft. We used separate instrument trolleys for 2-stages of the operation – i) fistulectomy and ii) skin grafting.

The site of the external opening of the fistula and its distance from the anal verge was recorded. Then the position of the internal opening was determined in relation to anal verge and anorectal ring. With the help of malleable probe, probing of the fistulous tract was carried out from external opening to determine the extent and direction of

tract and its termination. It's other end was then brought through the anus and area was infiltrated with 2% lignocaine solution. It takes about five minutes to act. Then by applying a gentle traction on the U-shaped angulated probe with the left hand, and cutting close to the probe on either side, the whole of the fistulous tract was excised out. Any ramifications of the tract were identified by searching for small dark circular and indurated areas of granulation tissue with outer fibrous coat. Such ramifications were also excised so that a healthy raw area was left behind. Haemostasis was secured by leaving haemostats in place for a while. Some of the bleeders were ligated with 3/0 catgut. Occasionally, diathermy was also used for haemostasis. After securing complete haemostasis, the raw area was then packed with wet gauze.

A fresh pair of gloves was now put on by each member of the team and split skin graft was taken from the postero-medial aspect of the right thigh. The donor area was then immediately covered with a few layers of cold and wet square gauze and gentle pressure was applied for a while. The area was then covered with a layer of paraffin gauze containing chlorohexidine acetate B.P 0.5% w/w, followed by several layers of dry square gauze and cotton wool and firmly bandaged. The fistulectomy wound was then again inspected for a stray bleeder which was suitable dealt with. Then onion-shaped mould of wet square gauze was made, its size depended on the size of the fistulectomy wound. The split skin graft was then placed over the face of mould. The mould and split skin graft was placed accurately in the wound (in-lay grafting) and held firmly in position by silk sutures tied across the back of the mould. This was then covered with square gauze and a firm T-shaped bandage was applied.

The patient was kept prone for first 24 hours after surgery. After first 24 hours, patient was made to lie supine. The patient was kept nil



orally for first 2 days after surgery, so that bowels remain confined. On 3rd day, he was started with normal oral diet, and was made to sit. The first dressing was done on 3rd post-operative day and during dressing, the redundant portion of the graft beyond the margins of the wound was excised. The area was then dressed daily till the graft was consolidated and the area was dry. The patient was discharged on 8th to 10th post-operative day, depending on the condition of wound and instructed to clean the area after each motion and to tuck in a little cotton wool for supporting the graft.

Results

The incidence of fistula in ano was highest in age group of 20-30 years (48%) whereas the second highest was in age group of 30-40 years (24%). Out of 25 cases studied, one was female and rest were males.

Maximum number of patients had duration of fistula in ano 0-1 year (52%) followed by 1-2 year (28%). Therefore 80% of cases had duration less than 2 years.

In present study, many patients had previous history of anorectal abscesses which bursted spontaneously or had been inadequately treated at operation.

Number of patients with external opening situated anterior to an imaginary line passing transversely through the midline of the anus were 8 (32%). The tracts of such fistulae-in-ano were straight and internal opening lied on the same radial line. 17 patients (68%) had their external opening situated posteriorly to the imaginary line passing transversely through the midline of the anus. Their tracts were curved, and their internal opening was found on the midline posteriorly. Therefore, all cases followed Good sall's rule. Fistulogram was conclusive in revealing internal opening and type of fistula (high or low) in only 3 cases (12%) wheeas in 22 cases (88%), it was mainly inconclusive.

Out of 25 patients, 100% 'Take' of the graft

was observed in 19 patients (76%). Whereas 40-60% 'take' of the graft was observed in 1 case (4%). There was no case in whom total failure of the graft occurred.

Discussion

In the present study, all the cases were of low anal fistula. After probing the tract, we excised whole tract including its ramifications. After securing haemostasis, we applied split skin graft taken from the posterior-medial aspect of thigh to the fistulectomy wound by in-lay method, and held it firmly in position by sutures tied across the back of mould. The first dressing was done on third post-operative day. In our study, out of 25 cases, graft 'take' was 100% in 19 cases (76%), 80-100% in 3 cases (12%), 60-80% in 2 cases (8%), 40-60% in one case (4%). There was no case in which there was total failure of the graft 'take' Our results are better as compared to study conducted by Ramachandran (8) where graft 'uptake' was 100% in 46.8% cases, more than 50% in 42.6% cases, less than 50% in 4.2% cases, and no uptake at all was observed in 6.4 % cases. The better result observed in our study could be because of 1) thorough pre operative evaluation of fistula in ano, 2) appropriate use of good antibiotics both pre operatively and post-operatively, so that chance of hematoma & infection of the grafted area was considerably reduced 3) securing good hematoma at the fistulectomy site so that chance of hemaconia formation and hence infection of graft was reduced 4) graft was placed over the fistulectomy wound site by in-lay method and held firmly in position by sutures tied across the back of the mould. It decreased the chances of lifting off the graft from the fistulectomy site in the post-operative period, thereby decreasing the chance of failure of graft. 5) Patient was put on intravenous fluids and strict nil orally for first two post-operative days so that patient did not pass stool before first dressing was done on third post-operative day. 6) The first dressing on third post-



operative day and subsequent dressings were done in strict aseptic manner. In one case, graft 'uptake' was 40-60%.

The average time taken for the completion of the surgery was 41.20 minutes.

In the present study, the grafted patient was discharged when the graft had consolidated and the area was dry. 16 patients (64%) were discharged from the hospital 8-10 days after surgery, 3 patients (12%) were discharged 6-8 days after surgery and one patient was discharged after more than 14 days, as in this case, graft uptake was 40-60% and patient required dressings so that non-grafted area could be healed by secondary intention. The average post-operative hospitalisation was 9.20 days. This study correspond to similar study conducted by Ramachandran (8) where average period of post-operative hospital stay was 9.6 days after fistulectomy and skin grafting, whereas in patients where skin grafting was not used after fistulectomy, average post-operative stay was 12.8 days.

In the present study, out of 25 patients, complete healing of the wound occurred in 12-16 days in 17 patients (68%), 8-12 days in 5 patients (20%), 16-20 days in 2 patients (8%) and more than 20 days in one patient. The average post-operative healing time was 13.76 days. This correspond with the study conducted by Khurana (7), where average wound healing time was 11.5 days in grafted cases and 39 days in non-grafted cases. In study conducted by Ramachandran (8), average period for complete wound healing in grafted cases was 9.8 days and in non-grafted cases was 24.3 days. In the study conducted by Marks (15), time to achieve complete healing after fistulectomy alone was in weeks – about 50% required 5-12 weeks for complete healing after fistulectomy in simple trans-sphincteric fistula. Therefore, fistulectomy and primary skin grafting has greatly decreased the healing time of the wound.

Conclusion

For low fistulae in ano, fistulectomy and primary skin grafting is recommended. It is good for patients as it is cost-effective and decreases the morbidity of the patient by decreasing the post operative hospitalisation time, total healing time, total number of dressings required, perianal complication and recurrence rate. Also it does not take much longer time as compared to usual fistulotomy or fistulectomy.

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