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Original Research Article

Nigam's standardization of manual anal dilatation (Lord's procedure)

Vinod K. Nigam*, Siddharth Nigam

Department of General and Minimal Access Surgery, Max Hospital, Gurugram, Haryana, India

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***Correspondence:**
Dr. Vinod K. Nigam,
E-mail: drnigamvk@gmail.com

ABSTRACT

Background: Standardisation of manual anal dilatation. It was a quality improvement study. Patients were admitted in various hospitals of Gurgaon, Haryana, India.
Methods: Two hundred thirty-six patients of fissure in ano were treated by manual anal dilatation (Lord's procedure) as per Nigam's standardization between January 2010 and January 2022. Informed consent was obtained from each patient. All patients were evaluated for post procedure for complications. Two hundred thirty-six patients of fissure in ano were treated by manual anal dilatation (Lord's procedure).
Results: No patient developed faecal incontinence. Pain subsided immediately in all patients. No patient had non healing of anal fissure. Two patients had mild gas incontinence which resolved after 3-4 days. None of the patients required lateral sphincterotomy or fissurectomy. Most of the patients healed completely within three weeks.
Conclusions: If manual anal dilatation is performed slowly, gently with controlled force for four minutes, as per Nigam's standardisation then results are very good. This study includes patients of acute and chronic fissure in ano. The study excludes cases of anal cancer, stage III and IV haemorrhoids and inflammatory bowel disease.

Keywords: Anal sphincter, Constipation, Fissure in ano, Healing, Incontinence, Lord's procedure, Manual anal dilatation, Standardisation, Recurrence

INTRODUCTION

Anal fissure accounts for approximately 30.7% among anorectal ailments.[1] Anal fissure can occur at any age, although chances of anal fissure diminish with age. It tends to recur. Fissure-in-ano is a very painful condition whether acute or chronic. Various conservative methods and surgical procedures are used for treating anal fissure. Manual anal dilatation (MAD) is also called Lord's procedure. MAD is a non-invasive procedure which does not require any equipment. It can be done at even primary health center. If it is done by an experienced surgeon with care to avoid applying excessive force, it shows good results. Lord's procedure is an excellent way to treat anal fissure but unfortunately it has fallen out of favour in current surgical practice, due to not following operative technique.

Anal fissure is a break or tear in the skin of the anal canal. Anal fissure may be noticed by severely painful defecation which may be associated with anal bleeding or blood stains on toilet and undergarments. Passage of hard stool, irregularity of diet, consumption of spicy and pungent food, faulty bowel habits, and lack of local hygiene can contribute for initiation of the pathology.[2] It has been proved that constipation is the primary and sole cause of initiation of anal fissure.[3]

Recamier described anal dilatation in 1838. This was one of the most favored and accepted methods of treating anal fissures. If performed with due care by avoiding excessive manipulation, it does not cause any damage to the external anal sphincter as feared.[4] In experienced hands incontinence of stools or flatus is seldom seen.[5] Peter Lord (1925-2017) was an English Surgeon who introduced in 1968, digital anal stretching for hemorrhoids and anal

fissure.[6] Anal dilatation, or stretching of the anal canal (Lord's operation) has fallen out of favour in recent years, primarily due to the unacceptability of high incidence of fecal incontinence.[7] In addition, anal stretching can increase the rate of flatus incontinence.[8] The incidence of incontinence is thought to be due to a lack of standardisation and following proper operative technique.

The objective of this study is to standardise the procedure of anal dilatation or Lord's procedure for treatment of fissure-in-ano. So far there is no standardisation of this procedure and this is pushing this extremely effective almost non-invasive procedure into oblivion. We have done more than 1000 anal dilatation procedures under this standardised method and the results are excellent with almost no serious complications. Once any procedure is standardised then it guides others to perform the procedure even at village level.

METHODS

This is an original research study.

This study includes patients of acute and chronic fissure in ano. The study excludes cases of anal cancer, stage III and IV haemorrhoids and inflammatory bowel disease.

Excel is the widely used as statistical package and we have used the same.

The authors certify that they have obtained all appropriate patients consent forms. In the forms, the patients have given his/her/their informed consent for clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

236 patients of anal fissure were treated by MAD between January 2010 to January 2022 at Max Hospital, Gurgaon and other hospitals at Gurgaon. All patients were diagnosed by history and digital rectal examination (DRE). Proctoscopy, sigmoidoscopy and colonoscopy were done if indicated. Cases of both acute and chronic anal fissure were included in this study. Presence of haemorrohoids with anal fissure was not taken as a limiting factor. Lord's procedure or MAD was used in each patient.

Informed consent was taken from all patients. Spinal or general anaesthesia was used in all cases. The patient was placed in lithotomy position, parts were painted and draped. Examination under anaesthesia was done. Fully Lubricated index finger of one hand was introduced slowly then index finger of the other hand was also introduced gradually by crossing hands. Fingers were kept straight. Then slowly the middle finger of one hand was introduced, lastly the middle finger of the other hand was also introduced. All fingers in anal canal during MAD are kept straight. Bending of the fingers like a claw was avoided. Gradually the sphincters relaxed and then fingers were further introduced, sphincter and anal canal wall was pushed by fingers on their sides only to get fingers of both side just separated. Fingers are changed from 9 and 3 'o' clock positions to 12 and 6 'o' clock positions. Keep the fingers in anal canal, stretching it gently, for exactly four minutes by clock.

A gauze impregnated with povidone-iodine solution and anesthetic jelly was placed in the anal canal after the procedure and antiseptic dressing was applied.

Patients were called for follow up on 3rd post-operative day, 7th post-operative day and then after 2 weeks and then monthly for six months and then they were told to review in OPD in case of any problems. All patients were told to follow the diet regimen to avoid constipation.

RESULTS

Out of 236 patients, 176 were men and 60 were women (Table 1).

Table 1: Gender wise distribution of cases (n=236).

Gender	Number	Percentage
Male	176	74.57
Female	60	25.42

The age of patients varied form 18 years to 58 years (Table 2). Maximum patients belonged to the age group from 21 to 30 years.

Table 2: Age wise distribution of cases (n=236).

Age	Number	Percentage
10-20	2	0.847
21-30	168	71.18
31-40	46	19.49
Above 40	20	8.47

All patients had pain while defecating and after. A lot of patients had bleeding per rectum, constipation while others also had burning or pruritus, discharge per rectum (Table 3).

Table 3: Symptoms (n=236).

Symptoms	Numbers	Percentage
Pain	236	100
Bleeding per rectum	154	65.25
Constipation	180	76.20
Burning or pruritus	154	65.25
Discharge per rectum	14	5.93

There were 134 case of acute fissure in ano and 102 cases of chronic fissure in ano.

Table 4: Distribution of case according to duration (n=236).

Duration	Number	Percentage
Acute fissure in ano	134	56.77
Chronic fissure in ano	102	43.22

We standardized the process of manual anal dilatation and did the procedure in all 236 patients as per standardisation. There was no case of fecal incontinence in our series. Two patients developed flatus incontinence for 3-4 days and then it resolved. No patient had excessive bleeding per rectum or injury to anal canal or anal sphincters.

DISCUSSION

Acute anal fissure is diagnosed apart from history, by inspection of anal area where it appears like a fresh tear and feeling for sphincter spasm on DRE. If the fissure has lasted for more than 8 weeks it is called chronic fissure in ano. Location of fissure in anal area is important as it may indicate the cause, if the fissure is in front (12 'o' clock position) or back (6 'o' clock position) in the midline, it is usually caused by constipation. If it occurs on lateral sides, it is likely due to some other disease.

Pain is severe in acute fissure as the linear cut is in squamous epithelium that lines the anal canal at a location distal to the dentate line.[10] The pathogenesis and exact etiology of the disease are not well recognized: however, the increase in the local tone of internal anal sphincter and the presence of local ischaemia have been reported to be associated with increased incidence of the disease.[11-14]

We did Lord's procedure of manual anal sphincter stretching (anal dilatation), as per our standardization procedure by four lubricated fingers for four minutes under anaesthesia. Index and middle fingers of both hands were used. Anal stretching (anal dilatation) was done exactly for four minutes by clock. The stretching or pulling force was mild to moderate and not excessive.

Anal dilatation performed in a systematic and standardized way has a successful outcome with minimal complications and has no clear long term negative impact on anal sphincter function.[15] We also could not find any post-operative complication such as faecal incontinence or injury to sphincters or anal canal.

However, there are many reports available which show that a controlled and gentle digital anal dilatation accomplishes a very high fissure healing rate and at the same time cause minimal disturbance of continence.[17] It has been recommended as the first line of management of chronic anal fissure.[18] The disease is associated with poor quality of life because of severe pain. That may lead to delay of defecation and exacerbation of pathology due to chronic constipation, in addition to bleeding per rectum and spasm of anal sphincter.[19-21]

Anal dilatation in fissure in ano done by Sohn et al, also showed good results. Sohn et al showed 3 months healing rate of 94% and 100% pain relief within 12 hours with no complication reported.[22] In our study the 6 weeks healing rate was 100% and pain subsided immediately.

Standardisation of MAD or Lord's procedure

Anal dilatation is a method that has been used for a long time. We are doing manual anal dilatation routinely and our results are excellent due to our standardization of MAD. Following points must be kept in mind before starting MAD or Lord's procedure.

Width of fingers, Dandekar et al asserted that the human index fingertip varies between 16 and 20 mm in width while Johnson and Blackstone registered a width of 20.3±2.4 mm for the same finger across participants.[23,24] Gender, race and age all play a role in causing these differences.[25,26] Average width of index finger of adult is 16-20 mm. Hence depending upon the surgeon's fingers size one can insert five fingers instead of four, if surgeon's fingers are thin. If surgeon's fingers are thick then may be three fingers can be inserted, instead of four.

Before starting the procedure, inform anaesthesiologist, in case of general anaesthesia, so as to avoid laryngeal spasm.[27] Anal dilations is done up to 40 mm.

First examine under anaesthesia (DRE and proctoscopy) carefully for any other inflammation or swelling.

Lubricate your index and middle fingers of both hands with 2% xylocaine jelly. Then introduce index finger of one hand gently and index finger of other hand and then middle fingers of both hands by crossing hands. Keep fingers straight pushing anus and anal canal wall. Push should be limited and only to keep fingers of both hands from just touching and not having a gap between fingers of both hands. The pushing should be just from distal and intermediate phalanges of all 4 fingers inserted in anal canal. The proximal digits of all 4 fingers are to be kept out of anus. So the pushing or stretching pressure should be in control and not excessive.[28]

All 4 fingers are used for anal dilatation, should be kept straight and not bent like a claw to avoid injury.

Manual anal dilatation must be done for full four minutes by clock. Four fingers for four minutes.

Fingers of both hands to be changed from horizontal to vertical position every minute to obtain uniform relaxation of sphincters.

Limitations

This study includes cases of acute and chronic fissure in ano. Study doesn't include case of cancer and inflammatory bowel disease.

CONCLUSION

It is unfortunate that an excellent procedure, manual anal dilatation or Lord's procedure, has gone out of favour in current surgical practice as the procedure is not properly standardized so it is wrongly blamed for various complications. We have standardized manual anal dilatation. The aim of this study is to bring back manual anal dilatation or Lord's procedure in today's practice, as it is also cost effective and has a low learning curve for young surgeons. Nigam's standardization of manual anal dilatation has shown good results with least complications as our study proves. Further studies are needed to support this data.

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