

Original Research Article

Nigam's pinch test to locate a chronic deep seated small perianal abscess

Vinod Kumar Nigam*, Siddharth Nigam

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

Received: 30 November 2020

Revised: 15 January 2021

Accepted: 19 January 2021

*Correspondence:

Dr. Vinod Kumar Nigam,

E-mail: drnigamvk@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Nigam's pinch test (NPT) is for localization of chronic perianal abscess and incision over it.

Methods: A description of Nigam's pinch test and demographics are presented.

Results: 20 cases of chronic deep seated perianal abscess were treated with the help of Nigam's pinch test at Max Hospital, Gurgaon from August 2013 to August 2020. All incisions were directly made over the abscess and in no case a second incision was required. No recurrence and fistula formation occurred.

Conclusions: Chronic deep seated perianal abscess usually has no signs except deep pain in perianal area or pain while passing stool. In such cases, there is no visible or palpable swelling, oedema or redness. Sometimes, it becomes difficult to put incision on the right site and more than one incisions are applied. Nigam's pinch test helps in localization of small deep perianal abscess and correct site of application of incision avoiding multiple incisions. Nigam's pinch test avoids post operative complications, specially recurrence and fistula-in-ano formation.

Keywords: Fistula-in-ano, Incision, Nigam's pinch test, Perianal abscess, Recurrence

INTRODUCTION

Perianal abscess is collection of pus in the tissue around the anus, anal canal and rectum. It is caused by infection of anal glands. A perianal abscess may be acute or chronic. A perianal abscess should be treated with incision and drainage but a high percentage of perianal abscesses, specially small, are treated with local dressing, sitz baths and antibiotics by general practitioners and this subsides the pain and other symptoms, but abscess remains there as chronic (antibioma). Perianal abscess can be superficial or deep.

A superficial perianal abscess may be visible from outside but deeper abscess may not be visible. Acute perianal abscess will have pain in perianal area, localized swelling, fever, general malaise and even rigors. On

examination an erythematous, tender and fluctuant lump will be found in perianal area. There is no problem in selecting the site of incision with such acute perianal abscess but the problem of localization is with small chronic perianal abscess specially deep abscess. Small deep seated perianal abscess sometime creates problem of localization of its site and making correct incision. Specially the chronic perianal abscess creates such problem as the symptoms and signs are negligible or minimal. Perianal space is the most common site of infection in this region. Inflammation always ends in the easily recognizable perianal abscess.¹ Every surgeon must have faced such situation in surgical career when it becomes difficult to localize the abscess and make incision over that site. Sometimes more than one incisions are made to locate the abscess or one has to search for it.

Pus collection cannot be treated with antibiotics alone as pus can't disappear with antibiotic treatment though the symptoms and signs might disappear. Difficulty in localization at operation table of such abscess, "which are treated with antibiotics for few weeks, is that all signs of inflammation disappear and only mild pain during defaecation or deep mild pain remains.

Deeper abscesses may not have any obvious external signs, however produce severe tenderness on digital rectal examination and therefore require a further examination under anaesthesia for full assessment. Chronic disease may require either a CT or MRI scan.

If these abscesses left untreated can extend into the ischioanal space or intersphincteric space since these areas are continuous with the perianal space.^{2,3} This study includes 20 cases of small perianal abscess, all cases were referred by general practitioners after 2-3 weeks treatment with antibiotics.

METHODS

A total of 20 cases of chronic deep seated perianal abscess were treated with the help of Nigam's pinch test (NPT) at Max Hospital, Gurgaon from August 2013 to August 2020. All patients were accurately diagnosed with NPT and operated with accurate site incisions. All cases were investigated by DRE, MRI, proctoscopy and sigmoidoscopy.

All patients were diagnosed as deep seated chronic perianal abscesses. Informed consent was taken from all patients. At the operation table all patients underwent Nigam's pinch test to localize the site of abscess and incision. Patients had only mild pain or dull ache in perianal area with no or minimal signs. No patient had edema or erythema.

Table 1: Age wise distribution of cases.

Age	Number	Percentage
20-30	02	10
31-40	04	20
41-50	12	60
Above 50	02	10

(n=20)

All cases were treated in same manner. Patients were prepared with enema and saline bowel wash before surgery in the ward. Surgeries were performed under general or spinal anaesthesia. Most of the patients were in age group, 41-50 years (60%). The youngest patient was 20 years old and the eldest was 76 years old. Mean age of patients in this study was 48 years (Table 1).

In our study it was found that perianal abscesses are more common in males (90%) than females (10%). The age group 41-50 years (60%) was having maximum cases in both genders (Table 2).

Table 2: Gender wise distribution of cases.

Gender	Number	Percentage
Male	18	90
Female	02	10

(n=20)

The patients were investigated and treated according to the protocols. We found that perianal abscess is more common in obese persons as compared to lean thin and normal weighing persons. In our study 60% cases were having BMI above 30 (Table 3).

Table 3: Distribution of cases according to BMI of patients.

BMI	Number	Percentage
18.5-25 Normal	04	20
Above 25-30 Over weight	04	20
Above 30 Obese	12	60

Perianal abscesses can be classified as superficial and deep in relation to anal sphincter. In this study most of the perianal abscesses were deep (85%) and few were superficial (15%). The main problem of localization of abscess was in deep perianal abscesses as there was almost no sign on the skin (Table 4).

Table 4: Distribution of cases according to type of abscess.

Type of abscess	Number	Percentage
Superficial	03	15%
Deep	17	85%

Nigam's Pinch Test (NPT)

Patient is placed in lithotomy position, cleaning and draping is done. First do per rectal examination by lubricated index finger and feel any swelling or lump or induration. Then pass a lubricated proctoscope to see a swelling, lump or pus discharge.

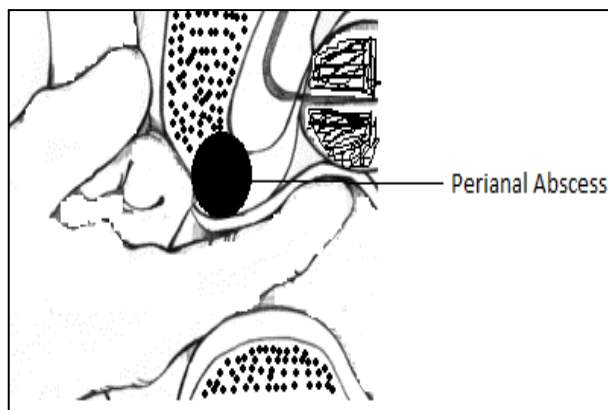


Figure 1: Nigam's Pinch Test

Nigams pinch test

Now do the pinch test by passing the lubricated index finger in rectum and pinching the perianal soft tissue between thumb and index finger to find a swelling or lump. Rotate your thumb and index finger in whole circumference when you find a lump or induration, try to squeeze the tissue between your thumb and index finger deep to the lump pushing it outside to make lump prominent on skin surface.

You can change your hands (depending upon you are right or left handed person) and make a criss-cross incision over the lump with other hand. Incise deeper till you reach the lump and then pierce the abscess with closed curved Spencer Wells artery forceps and now open it to make the hole bigger to drain the abscess well.

Pass little finger and break all septas inside the abscess cavity but if the abscess small you can do this with Spencer Wells artery forceps. Do surgical toilet with a mixture of 50% povidone-iodine solution and 50% hydrogenperoxide solution then clean with Eusol liquid and pack the abscess cavity with sterilized gauze ribbon impregnated with Eusol.

During this whole procedure the abscess is held with pinching thumb and index finger to avoid getting lost, specially the small abscess in soft fatty perianal tissues. The study design of this study was descriptive study based on examination, observation and question and answers. This study included chronic perianal abscesses having no sign of abscess or inflammation. This study did not include acute perianal abscess or cellulitis or a recurrent abscess. Informed consent was taken from all patients.

This study has utilized inferential statistics for making a decision by using Nigam’s Pinch Test. This study includes both the quantitative and qualitative tools.

RESULTS

Twenty patients of deep seated perianal abscess were operated between August 2013 and August 2020, after correct localization with NPT at the operation table.

Table 5: Distribution of cases according to post operative complications (n=20).

Post-operative complications	Number	Percentage
Pain	05	25
Bleeding	03	15
Recurrence	00	0
Fistula-in-ano	00	0

All incisions were directly made over the abscess and in no case we had to struggle to locate the abscess or a second incision was required to reach the abscess.

Perianal abscesses when drained leave a cavity which takes few weeks to heal by secondary intention.

Post operative pain, bleeding from wound, pus discharging wound, recurrence, fistula-in-ano were studied. In our study patients had mild pain at the operation site for few days. One patient had mild bleeding from the wound for 3 days which stopped with surgical toilet and daily dressings and packing of the wound with sterile ribbon gauze. No patient developed fistula-in-ano or recurrence (Table 5).

DISCUSSION

Perianal space is situated at the termination of the anal canal. Morphologically it represents the part of the proctodaeum. The space contains the subcutaneous part of the sphincter ani externus muscle, the external haemorrhoidal venous plexus, and fat. It is enclosed by sensitive skin and prolongation of longitudinal muscle of the bowel. The perianal fat is continuous outwards with superficial fascia of the surrounding buttocks. This space is the most common site of infection in this region. Inflammation always ends in the easily recognizable perianal abscess.¹

A perianal abscess is a variety of anorectal abscess which is located in perianal space. Perianal abscess may be acute or chronic and superficial or deep. For proper management of perianal abscess a clear understanding of anal and perianal anatomy with disease process is must. Perianal abscess will require incision and drainage for a cure. Delay in incision and drainage may lead to fistula-in-ano formation which is a complicated disease and it must be avoided. Improper management may lead to recurrence also.

Most perianal abscesses originate in an infected anal gland. These glands are at the base of the anal crypts and are located at the level of dentate line. Obstruction of these glands leads to stasis, bacterial overgrowth, and ultimately abscess that are localized in the intersphincteric area.⁴ Small perianal abscess, if deep and treated with excessive amount of antibiotics may become chronic abscess or antibioma which may not cause severe pain, but only dull ache without any visible signs. Crohn’s disease and cancer can also cause perianal abscess.

Acute abscess may have pain in perianal area, fever, swelling, erythema and even pus discharge. Chronic abscess is like a lump under skin or no sign. Seminal work by Parks and Eisenhammer identified glands present at the level of dentate line and showed that these glands are the etiology of most perirectal abscesses and fistulas.⁵⁻⁷

Perianal suppuration is common compared with abscess formation around other parts of the alimentary tract.⁸ Deeper perianal abscesses may not have any obvious

external signs, however, produce severe tenderness on digital rectal exam, therefore require a further examination under anaesthesia for full assessment.⁹ The mean age at presentation is 40 years old, and adult males are twice as likely as females to develop an abscess.^{10,11} In our study these findings are similar. Perianal abscess almost always require surgical drainage, even if they have spontaneously discharged. A recent Swedish cohort study estimated the incidence of perianal abscess at 16.1 per 1,00,000. The true incidence may be higher since many patients are treated with antibiotics in the community and some abscesses spontaneously regress or discharge.¹² Perianal space abscess can lead to intersphincteric abscess which are notoriously difficult to diagnose because they produce least or no signs of infection. Pain is typically described as being deep and upinside.¹³

Recurrence is common, and about 80% of recurrences are associated with the formation of a fistula-in-ano.¹⁴ Parks AG., explained very well that in chronic intersphincteric abscess there is an absence of perianal swelling and redness, and the diagnosis is made on digital examination of the rectum.¹⁵ Risk factors include anything that causes immunosuppression or poor wound healing such as smoking, HIV, immunosuppressive drugs, and diabetes. Crohn's disease is also a known risk factor for developing a perianal abscess.^{16,17}

Limitation

Study includes acute perianal abscess, perianal cellulitis, ischioanal abscess and recurrent perianal abscess. This study only excludes chronic superficial and deep perianal abscesses without any visible signs of inflammation.

CONCLUSION

Chronic deep seated perianal abscess usually has no signs except deep pain in perianal area or pain while passing stool. There is no visible or palpable swelling or erythema. Placing the incision right over the abscess becomes a problem when patient is ready for operation on operation table in lithotomy position. Placing the incision right over the abscess with the help of NPT prevents post-operative complications such as recurrence and fistula-in-ano formation.

ACKNOWLEDGEMENTS

Authors would like to thank Dr. Charvi Chawla for her valuable help in preparation of this manuscript. Mr. Vipin Sharma deserves all praise for doing computer and typing jobs.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Milligan ETC. The surgical anatomy and disorders of the perianal space. *Proc R Soc Med.* 1943;36(7):365-78.
2. Chio YS, Kim DS, Lee DH, Lee JB, Lee EJ, Lee SD. Clinical characteristics and incidence of perianal disease in patients with ulcerative colitis. *Ann Coloproctol.* 2018;34(3):138-43.
3. Sahnun K, Adegbola SO, Tozer PJ, Watfah J, Phillips RK. Perianal abscess. *BMJ.* 2017;356:J475.
4. Sigmon DF, Emmanuel B, Tuma F. Perianal abscess in: *Stat Pearls.* Available at <https://www.ncbi.nlm.nih.gov/books/NBK459167/>. Accessed on 20 September 2020.
5. Parks AG. Pathogenesis and treatment of fistula-in-ano. *Br Med J.* 1961;1:463-9.
6. Eisenhammer S. The internal anal sphincter and the anorectal abscess. *Surg Gynaecol.* 1956;103:501-6.
7. Whiteford MH: Perianal abscess/fistula disease. *Clin Colon Rectal Surg.* 2007;20(2):102-9.
8. Parks AG, Morson BC. The pathogenesis of fistula-in-ano. *J Sigmoid Proctology.* 1962;55:76-85.
9. Anorectal abscess-risk factors-management teach me surgery. Available at <https://teachmesurgery.com/general/anorectal/abscess/>. Accessed on 20 September 2020.
10. Adamo K, Sandblom G, Brannstrom F, Strigard K. Prevalence and recurrence rate of perianal abscess-a population based study Sweden 1997-2009. *Int J Colorectal Dis.* 2016;31(3):669-73.
11. Read DR, Abcarian H. A prospective survey of 474 patients with anorectal abscess. *Dis Colon Rectum.* 1979; 22(8):566-8.
12. Sahnun K, Adegbola SO, Tozer J, Watfah J, KS Phillips. Perianal abscess. *BMJ.* 2017:356.
13. Bullard KM, Rothenbreger DA. Colon, rectum, and anus. chapter 28, *Schwartz's Principles of Surgery.* 2005:1107.
14. Chabrot CM, Prasad ML, Abcarian H. Recurrent anorectal abscesses. *Dis Colon Rectum.* 1983;26:105.
15. Parks AG, Thompson JPS. Anal disease. *Br Med J.* 1983;2:537.
16. Sigmon DF, Emmanuel B, Tuma F. Perianal Abscess. *Stat Pearls Publishing.* 2000.
17. Gajendran M, Loganath P, Calinella AP, Hashash JG. A comprehensive review and update on Crohn's disease. *Dis Mon.* 2018;64(2):20-57.

Cite this article as: Nigam VK, Nigam S. Nigam's pinch test to locate a chronic deep seated small perianal abscess. *Int Surg J* 2021;8:660-3.