REVIEW OF OUTCOME OF CLOSED VERSUS OPEN LATERAL INTERNAL PARTIAL SPHINCTEROTOMY IN THE TREATMENT OF CHRONIC ANAL FISSURE

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ABSTRACT

Background: Fissure in ano is a very common anal disorder which predominantly presents with sharp rectal pain and bleeding associated with bowel movements. Partial lateral internal anal sphincterotomy is considered the preferred surgical treatment for chronic anal fissure; this may be performed using open or closed method, each with its complications. This study compared the results and complications of closed versus open techniques of partial lateral internal anal sphincterotomy in patients with chronic anal fissure.

Materials and Methods: A total of 119 patients with chronic anal fissure were included in this study. Of these 51 patients underwent closed partial lateral internal sphincterotomy and 68 patients underwent open partial lateral internal sphincterotomy. All these patients were followed up for 6 months post – surgery. The results and complications of both techniques were compared included pain, bleeding, infection, incontinence and recurrence rate.

Results: Pain, bleeding, infection and incontinence were less in the closed technique and in our study no patient by either technique became incontinent for faces, only few cases (Table 4) developed transient incontinence for flatus.

Conclusion: Closed partial lateral internal sphincterotomy technique is superior on open one in the surgical treatment of chronic anal fissures.

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Keywords: Chronic Anal Fissure, Partial Lateral Internal Sphincterotomy, Closed Technique, Open Technique.

Anal fissure is a common proctological problem, which presents with pain in the anal region during and after defecation. An anal fissure is a longitudinal painful split in the epithelial lining of the distal anal canal which extends from the anal verge proximally towards but not beyond the dentate line. Patients typically complain of severe anal pain lasting minutes to hours, during and after defecation. Bleeding is commonly seen either on the toilet tissue or streaking the stool surface, in the form of bright red blood[1,2].

Fissures occur most frequently in the poste rior midline and less frequently in the anterior region due to the relatively poor blood supply[3]. Locations other than the midline involve cracks caused by underlying conditions such as inflammatory intestinal diseases, retroviral disease or malignancy[4].

Typically, fissures involve the internal anal sphincter, which cause spasm and impedes healing by separating the two margins and decreasing the region's blood supply. The fissure is also exposed to the fecal material, which accounts for the delays in healing the fissures. It is referred to as chronic when a fissure has been present for more than six weeks. The presence of features such as sentinel skin tag and hypertrophied anal papilla on examination distinguishes a chronic anal fissure[5].

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While the acute fissures heal with conservative measures, the main goal of chronic anal fissure treatment is to decrease the tone of the internal sphincter and thus increase the blood flow with subsequent tissue healing. Treatment options include pharmacotherapy[6,7] and surgery.

Surgical treatment includes anal dilatation and internal sphincterotomy posterior or lateral. Many colorectal surgeons generally regard finger anal dilatation as an obsolete method because it was associated with anal incontinence.

The gold standard for the treatment of chronic anal fissures was lateral sphincterotomy. The superiority of lateral sphincterotomy over posterior sphincterotomy has been shown in various studies[8,9].

Newly developed surgical treatments include local flap procedures such as V–Y flaps and rotation flaps[10,11].

Fissure revision attempts have resulted in the development of fissuerctomy and fissurotomy procedures[12,13].

Also described was a new method of blunt division of the internal sphincter fibers called sphincterolysis[14].

In patients with anal hypertonia, surgical internal sphincterotomy is recommended as the first line treatment. With the relief of symptoms, it achieves permanent reduction of hypertonia and is very successful in healing chronic anal fissures while minimizing morbidity[15].

Chronic anal fissure is a benign anorectal condition that causes patient's life to be significantly disturbed and embarrassed. An effective solution with fewer complications is therefore required[16].

The aim of this study is to compare the closed and open techniques of lateral internal anal sphincterotomy.

PATIENTS AND METHODS

This study was conducted in Azadi teaching hospital and private hospitals in Duhok city, Iraq. One hundred and nineteen patients with chronic anal fissure were included in this study, the patients' ages ranged between 20-60 years in both sexes. Full history and complete physical examination were done. The sites of the fissure, induration and skin tags were identified and digital rectal examination carefully was performed. Closed lateral partial internal anal sphincterotomy is a minimally invasive method for division of the internal sphincter, under general or spinal anesthesia and in lithotomy position with the insertion of the left index finger in the anal canal, the inter sphinicteric groove is identified through which a number 11 surgical blade is inserted parallel to the sphincter. When the tip of the blade reaches the dentate line, the blade is turned inward hence the lowest fibers of the internal sphincter muscle were divided, the tightness of the sphincter of the left index finger waned off indicating proper division of the internal sphincter. The blade pulled out, gentile pressure is applied to control bleeding and the skin tag is removed if any. Thirty one males and twenty females underwent this technique.

In open method the patients were positioned in lithotomy position, sterilization of the anal region, insertion of the left index finger in the anal canal to place the internal sphincter on a slight stretch to assist in its identification. A radial incision is made laterally at the lower border of the internal sphincter into the intersphinicteric groove. A small clip is used to isolate the lower third to lower half

of the internal sphincter and divided by electro cautery or scissor, the incision sutured and sentinel pile is removed. The number of male patients was 45(37.8%) and the number of female patient was 23(19.3%) were underwent this technique. Post operatively the patients were given antibiotics and were checked for pain or bleeding. In the first postoperative day a local examination of the wound was done for any hematoma, bleeding, bruises, if there is no such findings the patient was discharged home with instructions and covered with antibiotics for ten day and follow up for two weeks thereafter and then monthly until six months to check for any discharge, infection, incontinence (for flatus or faeces) and recurrence.

Post-operative pain, bleeding, infection, incontinence and recurrence were compared between the patients who underwent surgery by closed partial lateral internal sphincterotomy technique and the open one

RESULTS

One hundred and nineteen patients with chronic anal fissure were chosen for the study from those who were presented in the surgical outpatient department in Azadi teaching hospital and private hospitals between June 2014 and May 2016. The age ranges of the patients are shown in table 1.

Table1: The age range of the patients involved in the study.

Age group (years)	Number of patients and %
20-30	32(26.4)
31-40	47(39.2)
41-50	33(27.4)
50 and above	9(7.0)
Total	119

The gender distribution of the patients involved in the study is shown in table 2.

Table2: The gender distribution of the patients

Gender	Number of patients and %
Male	76(63.8)
Female	43(36.2)
Total	119

In table3, the majority of studied patients in the current study were presented with posterior fissures and the frequency was 104(87.3%) followed by anterior fissure and lateral fissure, 12(10.2%) and 3(2.5%) respectively.

Table3: The frequency of the fissure site in the patients.

Site of the fissure	Frequency (%)
Posterior	104(87.3%)
Anterior	12(10.2%)
Lateral	3(2.5%)
Total	119

The patients were grouped into two groups based on the surgical technique used, the closed surgical technique which included 51 patients, 31(60.8%) of them were males and the other 20(39.2%) were females. The other group which included 68 patients underwent open surgical technique, 45(66.2%) of them were males and 23(33.8%) were females. The patients have been followed-up for 6 months post operatively and there was a variation in complications occurred with the patients according to the surgical technique that has been used as shown in table 4.

Table 4: Comparison of post-operative Complications of both surgical techniques

Complication	Frequency in patients with closed technique (%)	Frequency in patients with open technique (%)
Pain	2(3.9%)	8(11.7%)
Bleeding	1(1.9%)	3(4.4%)
Infection	2(3.9%)	6(8.8%)
Incontinence (for flatus)	3(5.8%)	5(7.3%)
Recurrence	2(3.9%)	4(5.8%)

DISCUSSION

It is of utmost importance to look at the aetiology of chronic fissure in ano. In almost all normal people, both hypo vascularization and hypo perfusion occur in the posterior anal commissure. Combining these factors with internal anal sphincter hypertonia, causing ischaemia, explains poor wound healing and chronic anal fissure-related pain [16], but it does not explain why ischaemic pain occurs only for a certain period of time after it has been defecated. The actual causative or initiating mechanism is also unknown and the transition mechanism between acute and chronic fissures remains obscure. Lateral internal sphincterotomy is detrimental to continence mechanism [17] in both ways so in our study 3 patients (5.8%) became incontinent for flatus only for 4-6 weeks while 5 patients (7.3%) became incontinent for flatus only up to 12 weeks.

The results of our study emphasize the benefits of the closed techniques in the aspects of shorter operation time, less bleeding and mucosal tearing and less pain post operatively and quicker fissure healing. On the other hand some studies showed no significant differences between the two techniques in the rate of healing and morbidity [18,19,20].

Both closed and open lateral internal sphincterotomy are effective in the treatment of chronic anal fissure as far as the rate of cure and low rate of complications are concerned, but still the closed technique is superior on open one because of its less impairment of control on flatus and faeces [6,7], therefore the technique of closed lateral internal sphincterotomy is the recommended and preferred way of surgical treatment of chronic anal fissure.

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پوختە

نیشاندانا دەرئەنجامێن شەقبونێن دەرێ کماخێ بێن یا پارچەی یا گرتی بەرامبەر یا ڤەکریا لایەکی دچارەسەریا شەقبونا دووم درێژ

پێشەکی وئارمانج: شەقبوونێن دەرێ کماخێ ئێکە ژ مشەترین ئاریشێن کماخێ کو پتریيا جارا نیشانێن وێ ئیشانەکا دژوارە ل کماخێ و خوینبەربوون کو یا گرێدایە ب لڤینێن رویڤیکا ڤە. راکرنا پارچەکا رەخی یا کونترولکەرێ کماخێ یێ ژناڤدا دهێتە هژمارتن باشترین چارەسەریيا نشتەرگەری بو شەقبونێن کەڤن، و ئەڤە ب دو رێکا دهێتە ئەنجامدان، رێکا ڤەکری و رێکا گرتی و هەرئێکێ ئالوزییێن خو هەنە. ئارمانجا ڤێ ڤەکولینێ بەراوردکرنا ئەنجام وئالوزییێن رێکا ڤەکری دگەل رێکا گرتی بو چارەسەریيا شەقبوونێن کەڤن.

رێکێن ڤەکولینێ: سەرجەمێ 119 نەخوشا کو شەقبوونێن دەرێ کماخێ بێن کەڤن هەبووین هاتنە بەشدارکرن دڤێ ڤەکولینێ دا و ژ وان 51 نەخوشا رێکا گرتی یا راکرنا پارچەکا رەخی یا کونترولکەرێ کماخێ یێ ژناڤدا هاتە کرن وەك چارەسەری و بو 68 نەخوشێن دی رێکا ڤەکری هاتە بکارئینان. دویڤچوونا ڤان هەمی نەخوشان هاتە کرن بو ماوێ شەش هەیڤا پشتی نشتەرگەریێ و ئەنجام و ئالوزییێن نشتەرگەریێ هاتنە بەراوردکرن دناڤبەرا هەردو رێکان دا.

ئەنجام: خالێن بەراوردکرنێ ئەڤە بوون: ئێشان پشتی نشتەرگەریێ، خوینبەربوون، کولبوون، نەکونترولکرنا هەوای و هەروەسا دوبارە زڤرینا نەخوشیێ. دڤەکولینێ دا دیاربوو کو ئێشان و خوینبەربوون و کولبوون و نەکونترولکرن هەمی کێمتر بوون لدەف وان نەخوشان بێن رێکا گرتی بو هاتییە بکارئینان ببەراوردی دگەل رێکا ڤەکری. چ نەخوشان دڤێ ڤەکولینێ دا کونترولکرنا دەستاڤا ستویر ژدەستنەدا بوو و بتنێ کێم ژ وان نەکونترولکرنا هەوای لدەف پەیدا بوو لێ ئەو ژی نەیا بەردەوام بوو.

دەرئەنجام: رێکا گرتی یا نشتەرگەریيا راکرنا پارچەکا رەخی یا کونترولکەرێ کماخێ یێ ژناڤدا باشترە ژ رێکا ڤەکری بو چارەسەریيا شەقبوونێن دەرێ کماخێ بێن کەڤن.

الخلاصة

استعراض نتائج فتح المصرة الجزئية المغلقة مقابل المفتوحة الجانبية في علاج الشق المزمن

الخلفية والأهداف: الشق في ano هو اضطراب شرجي شائع جداً يظهر في الغالب مع ألم حاد في المستقيم ونزيف مرتبط بحركات الأمعاء. يعتبر إستئصال العضلة العاصرة الشرجية الداخلية الجزئية العلاج الجراحي المفضل للتشقق المزمن في الشرج، ويمكن إجراء ذلك بإستخدام طريقة مفتوحة أو مغلقة، مع كل مضاعفاته. قارنت هذه الدراسة نتائج ومضاعفات التقنيات المغلقة مقابل المفتوحة من شق العضلة العاصرة الشرجية الجزئية في المرضى الذين يعانون من الشق المزمن في الشرج.

المواد والطرق: تم تضمين ما مجموعه 119 مريضا يعانون من الشق المزمن في هذه الدراسة. من هؤلاء المرضى خضع 51 مريضا مغلقة جزئية العضلة العاصرة الداخلية و 68 مريضا خضعوا فتح العاصرة المصغرة الداخلية الجزئية. تمت متابعة جميع هؤلاء المرضى لمدة 6 أشهر بعد الجراحة. وتمت مقارنة نتائج ومضاعفات كل من التقنيات.

النتائج: ألم ما بعد الجراحة والنزيف والعدوى والسلس. وتمت مقارنة تكرار بين المرضى الذين خضعوا لعملية جراحية عن طريق تقنية قص العضلة العاصرة الجزئية المغلقة وأخرى مفتوحة. كان الألم والنزيف والعدوى وسلس البول أقل في التقنية المغلقة. في دراستنا لم يصبح أي مريض بأي من الأساليب سلساً للخروج، فقط حالات قليلة أصيبت بسلس عابر للهواء.

الخلاصة: تقنية قص العضلة العظمية الجزئية المغلقة مغلقة على واحدة مفتوحة في العلاج الجراحي لتشققات الشرج المزمنة.