Results following lateral internal sphincterotomy for the treatment of chronic anal fissure

Dr. Bahzad Waso Hamad

University of Raparin
School of Nursing
Nursing Department

ABSTRACT:

Background and objectives: lateral internal sphincterotomy (LIS)is now the gold standard surgical treatment for chronic anal fissure(CAF) . Healing rate is very high after sphincterotomy but carries a significant risk of incontinence. The aim of this study is to examine the results of LIS in term of fissure healing and the outcome of this surgery in our locality. **Methods:** This retrospective study achieved in Rania city from 1st July 2006 to 31 Dec 2011. It recruited 71 patients with chronic anal fissure treated by lateral subcutaneous sphincterotomy. Seventeen cases were lost in the follow up and the actual studied group was 54 cases .**Results:** The ages range from 18 to 57 years with mean age of 32.5 years. The female to male ratio was 3:1 .Outcome of our study 49 (90.7%) of those patients had no complain and satisfied with the operation, only 5 (9.3%) patients had some complaint like itching, constipation and mild pain. Four patients (7.4%) reported occasional leakage of fluid, and 11 patients (20.4%) has incontinence of flatus. No patients experience incontinence for solid feces .**Conclusions:** LIS is safe and effective treatment for CAF with a risk of incontinence to fluid and flatus which could be a symptom of CAF and not complication of surgery.

key words: Fissure in ano, Sphincterotomy, Incontinence

INTRODUCTION:

Anal fissure is a longitudinal defect of the anal canal mucosa and anoderm extending usually from the dentate line to the external verge of the anal canal (Liratzopoulos et al. 2006).The etiology of anal fissure is not fully understood, and the reason why some fissures heal spontaneously and others become chronic remain obscure (Edward et al. 2005).The reason underlying the non healing CAF is thought to be due to ischemia of the affected area ,secondary to spasm of the internal anal sphincter (Garcea et al. 2003) .The anal fissure was defined as chronic if the edges were fibrosed and indurated and floor shows evidence of the circular muscle fibers of the internal sphincter(Ammari et al. 2004). Classic treatment for CAF is surgical sphincterotomy to reduce the anal tone and eliminate sphincteric spasm (Utzig et al. 2003).LIS achieves permanent reduction of sphincter hypertonia and is the

procedure of choice for CAF because it relieves symptoms and heals the fissure in nearly all patients(Nyam et al. 1999).Although LIS is very successful at healing anal fissure ,but require an operation with associated small morbidity(Liratzopoulos et al. 2006). The major complications for this procedure is disturbance of sphincter function leading to incontinence(Garcea et al. 2003) although post operative Incontinence could be a symptom of CAF and not a sequel of LIS (Ammari et al. 2004).
Although CAF is a common complain in surgical consultation, but no data has been found in the published literature regarding LIS as an option of treatment in Iraq and Kurdistan. The aim of this study was to examine the outcome of LIS in terms of fissure healing and incidence of post operative fecal and flatal incontinence in our locality.

PATIENTS AND METHODS:

A retrospective study in Rania city was done from 1st July 2006 to 31 Dec, 2011 on 71 patients with CAF. These patients were treated by the one surgeon(researcher himself). Data were collected on demographic aspects of the patients, their presentations, preoperative assessment and preparations. Only patients with clinical criteria of CAF were selected for this operation. All of the patients were given informed consent regarding anesthesia, and this procedure with their possible mishaps. Classical lateral subcutaneous internal sphincterotomy was done for them. Data were collected regarding postoperative care, symptoms and hospital stay. The patients were followed up in the outpatient clinic regularly for three months through 3 visits (at 2, 4, and 12 weeks) thence through telephone communication for another 3 months. Data were collected and saved in the personal computer throughout this period regarding patients satisfactions and any complaints .Wexner Continence Grading Scale was used as instrument to evaluate continence status for flatus or feces . It is one of the most widely used scales or grading system for anal incontinence (Jorge et al. 1993). The Wexner score is described in table 1.

Table 1:The Wexner incontinence Grading Scale

Type of incontinence	never	Rarely	Sometimes	Usually	Always
Solid	0	1	2	3	4
Liquid	0	1	2	3	4
Gas	0	1	2	3	4

Never: 0, Rarely: <1/month, Sometimes: <1/week, ≥1/month, Usually: <1/day, ≥1/week, Always:≥1/day 0= perfect continence, 20=complete incontinence

RESULTS:

Originally 71 patients with CAF were operated during 5,5 years of the study As 17 patients were lost in the follow up period because of the lack of communication with them, only 54 patients were recruited in this study .The age ranges from 18 to 57 years with a mean age of 32.5 years. .There were 41 females (75.9%), and 13(24.1%) males with female:male ratio of 3:1.Table 1 shows the clinical presentations of these patients. Anal pain and bleeding after defecation were presenting symptoms in 52(96.3%) and 40(74.1%) respectively while constipation was present in only 32(59.3%) patients .Table 2 shows surgical outcome .Minor complications including mild bleeding , pain and itching occurred only in 5(9.3%) patients in first week postoperatively which respond for simple conservative measures. Incontinence for flatus recorded in early postoperative period in 11 patients (20.4%), and fluid incontinence in 4 patients (7.4%).

Table2: The clinical presentations of 54 patients with chronic anal fissure

Symptoms	Frequency	percentage
Anal pain	52	96.3
Bleeding	40	74.1
Constipation	32	59.3

Table 3: The frequency and percentage of postoperative Complications

Complications	frequency	percentage
Bleeding, constipation and Itching)	5	9.3
Incontinence according to Wexner Continence Grading scale:		
To flatus : Rarely <1 /month	9	16.7
Sometimes <1/week	2	3.7
To Liquid: Rarely <1/month	2	3.7
Sometimes <1/week	2	3.7

DISCUSSION:

In this study the ratio between male and female was 1:3. Age distribution was between 18-57 years ,which is near to the results of previous studies done by Ammari et al. in 2004.Regarding the presenting symptoms , pain was the commonest (96.3%) ,followed by bleeding (74.1%) and the last one constipation (59.3%). Proctalgia is the main presenting symptom in CAF (Sánchez Romero et al. 2004). There are a great variety of therapeutic methods for the treatment of CAF when the conservative treatment fails but LIS has been proven the procedure of choice in various comparative studies since it exhibits the highest rate of healing associated with the lowest indexes of incontinence (Sánchez Romero et al. 2004).The results obtained in our study are comparable to previous published studies with a healing rate higher than 90% and incontinence rate around 20%.Incontinence in our study was high mostly related to the extensive section of the internal anal sphincter as the operations done under general and/ or spinal anesthesia. Although as high as 30% of incontinence after LIS had been reported (Liratzopoulos et al. 2006) nevertheless ,

incontinence is present in 2% of general population and it may be related to pre-existing sphincter dysfunction in CAF rather than as a result of surgical treatment(Ammari et al. 2004). In a study observed that minor degree of incontinence was present in 28% of patients before surgery (Ammari et al. 2004).In other study on 1355 patients whose underwent internal sphincterotomy for CAF the incidence of lack of control of flatus was 35.1% and soiling of underclothing was 22% (Khubchandani et al. 1989). .All patients in our study had healing of their wounds by the 10th post operative day but fissure healing took weeks to accomplish . In other previous study incontinence to flatus, mild soiling and gross incontinence occurred in 31,39 and 23 percent of patients respectively (Nyam et al. 1999). In our study only 4 (7.4%) patients had fluid incontinence without soiling (2 patients have rarely i.e. <1bout of liquid stool incontinence /month and 2 patients have sometimes i.e. < 1bout of liquid stool incontinence /week according to Wexner Continence Grading scale) and no one had gross incontinence. Importantly, only 1 patient stated that incontinence to flatus had affected their quality of life. About 20.4% of the patients in our study had mild incontinence for flatus(9 patients rarely i.e. < 1bout of flatal incontinence/month and 2 patients have sometimes i.e. < 1bout of flatal incontinence/week) but this can be decreased with more conservative division of the internal anal sphincter (Garcea et al. 2003). This supported by another study which confirms that open LIS up to dentate line does not have higher rate of incontinence (Kiyak et al. 2009).Another study from the Mayo clinic involved 585 patients undergoing LIS revealed 45% of patients had some degree of temporary post operative incontinence (Casillas et al. 2005).

CONCLUSION:

LIS regards as the effective treatment for CAF, that leads to early symptomatic improvement and positively affects quality of life and patient's satisfaction, however the risk of flatal and fluid incontinence is present and patients should be informed about this complication although the severity of it can be eliminated by more conservative division of the internal sphincter.

ACKNOWLEDGMENT:

Special thanks for Prof.Dr.Faruk H. Faraj and Dr.Abdulfattah Hawramy for their kind help to review the article and statistic of the data. My thanks also for Registered nurse Darya S. Abdulrahman whose helped me much in collecting the data and follow up of the patients through telephone communication.

REFERENCES:

A. Sánchez Romero, A. Arroyo Sebastián, F. Pérez Vicente, P. Serrano Paz, F. Candela Polo, A. Tomás Gómez, D. Costa Navarro, A. Fernández Frías and R. Calpena Rico(2004) Open lateral internal anal sphincterotomy under local anesthesia as the gold standard in the treatment of chronic anal fissures. A prospective clinical and manometric study *Rev. esp. enferm. dig*. . v.96 n.12

Casillas, Sergio; Hull, Tracy L.; Zutshi, Massarat; Trzcinski, Radzislaw; Bast, Jane F.; Xu(2005)Incontinence After a Lateral Internal Sphincterotomy: Are We Underestimating It?. *Diseases of Colon & Rectum* Volume 48, Issue 6, pp. 1109-1334.

F. F. Ammari, K. E. Bani-Hani(2004) Faecal incontinence in patients with anal fissure: A consequence of internal sphincterotomy or afeature of the condition? *SURG J R COLL SURG EDINB IREL* , vol. 2, no. 4, pp. 225-229.

G. Garcea, C. Sutton, S. Mansoori, T. Lloyd and M. Thomas(2003) Results following conservative lateral sphincteromy for the treatment of chronic anal fissures *Colorectal disease* Volume 5, Issue 4, pp. 279-390.

I. T. Khubchandani, J. F. Reed(2005) Sequelae of internal sphincterotomy for chronic fissure in ano *British Journal of surgery* Volume 76 Issue 5 : pp.431-434

Kiyak G1, Korukluoğlu B, Kuşdemir A, Sişman IC, Ergül E(2009) Results of lateral internal sphincterotomy with open technique for chronic anal fissure: evaluation of complications, symptom relief, and incontinence with long-term follow-up. 9.*Dig Dis Sci*. 54(10):pp.2220-4.

Jorge, J.M.N., Wexner, S.D.(1993) Etiology and management of fecal incontinence *Dis. Colon Rectum* 36:pp.77-97.

M J Utzig , A J Kroesen and H J Buhr (2003) 5. Concepts in pathogenesis and treatment of chronic anal fissure—a review of the literature *Am J Gastroenterol* 98:pp. 968-974.

Nikolaos Liratzopoulos, Eleni I. Efremidou, Michael S. Papageorgiou, George Kouklakis, John Moschos, Konstantinos J. Manolas, George J. Minopoulos(2006) Lateral subcutaneous internal sphincterotomy in the treatment of chronic anal fissure: our experience *J Gastrointestin Liver Dis* Vol.15 No.2, pp.143-147.

Nyam, Denis C. N. K.; Pemberton, John H.(1999) Long-term results of lateral internal sphincterotomy for chronic anal fissure with particular reference to incidence of fecal incontinence *Diseases of Colon and rectum* Volume 42, September 1999, Issue 9, pp. 1123-1242.

Ram, Edward ; Alper, Dan ; Stein, Gideon Y; Bramnik, Zachar ; Dreznik, Zeev(2005) Internal Anal Sphincter Function Following Lateral Internal Sphincterotomy for Anal Fissure: A Long-term Manometric Study *Annals of Surgery* Volume 242 - Issue 2 - pp 208-211.

پووخته

ئه نجامەکانی نەشتەرگەری بڕینی گوشەری کۆمی ناوەوە وەك چارەسەرێك بۆ قڵیشی کۆمی درێژخایەن

ئامانجەکان و باکگراوندی زانستی: نەشتەرگەری بڕینی گوشەری کۆمی ناوەوە بەچارەسەرێکی نەشتەرگەری پێوانەیی دادەنرێت بـۆ قڵیشـی کـۆمی درێژخایـەن. رێـژەی چـاك بونـەوە دوای ئـەو نەشـتەرگەریە زۆر بەرزە،بـەڵام مەترسـی لـە داسـت دانـی کۆنترۆڵکردنی گازات و پاشەرۆك هەیە. ئامانجی ئەم توێژینەوەیە بریتی یە لە دیاریکرنی ئەنجامەکانی نەشتەرگەری بڕینی گوشەری کۆمی ناوەوە لە ڕووی چاك بونەوەی قڵیشەکە و وە دەرەنجامەکانی نەشتەرگەریەکە لە ناوچەکەماندا.

ڕێگای توێژینـەوە: ئـەم توێژینەوەیـە لـە شـاری رانیـە ئـەنجام دراوە لـە نێـوان 1 /7/2006ـ 2011/12/31 لـە سـەر 71 نەخۆشی تووش بوو بە قڵیشی کۆمی درێژخایەن کە چارەسەرکران بە نەشتەرگەری بڕینی گوشەری کۆمی ناوەوە .نـەتوانرا بـە دواداچوون بۆ 17 نـەخۆش بکرێت لـە بـەر پچڕانـی پەیوەنـدی لەگەڵیان لـە بـەر ئـەوە تـەنها 54 نـەخۆش مانـەوە بـۆ ئـەم توێژینەوە.

ئەنجامـەکان: تەمـەنی نەخۆشـەکان لـە نێـوان 18ـ57 سـاڵ بـوون بـە ناوەنـدی تەمـەن 32.5 سـاڵ. رێـژەی مـێ بـۆ نێـر3: 1 .توێژینەوەکە دەریخست کە 49 (90.7٪) نەخۆش ڕەزامەندی زۆریان هەبوو لە نەشتەرگەریەکە، جگە لە 5 (9.3٪) نـەخۆش کە توشی خووڕانی کۆم ، قەبزی و ئازارێکی سوك بووون . 4 (7.4٪) نـەخۆش نـاو بـە ناوهەسـتیان بـە تـەربونی دەوری کـۆم دەکرد، وە 11 (20.4٪) نەخۆش کۆنترۆڵ کردنی گازاتیان لـە دەست دابـوو، بـەڵام هـیچ نەخۆشـیك کـۆنترۆڵی پاشـەرۆکی لـە دەست نە دابوو.

دەرەنجامەکان: نەشتەرگەری بڕینی گوشەری کۆمی ناوەوە چارەسەرێکی سـەلامەت و کاریگـەرە بـۆ قڵیشـی کـۆمی درێژخایـەن هەرجەندە لەوانەیە ببێتە هۆی لە دەست دانی کۆنترۆڵ کـردنی گازات و پاشەرۆکی شل کە دەگونجێت ئەمانە یە کێك بـن لـە نیشانەکانی قڵیشی کۆمی درێژخایەن نەك ماکەکانی نە شتە رگەریەکە.

الخلاصة:
نتائج عملية قص المعصرة الشرجية الداخلية كعلاج للشق الشرجى المزمن

الاهداف و الخلفية العلمية: يعد قص المعصرة الشرجية الداخلية العلاج الجراحى المعيارى للشق الشرجى المزمن. ان معدل الشفاء عالية جدا، الا انه قد ينجم عنه مخاطر كبيرة متمثلة فى سلس الغازات و البراز. أن الهدف من هذه الدراسة هو فحص نتائج عملية قص المعصرة الشرجية الداخلية فى مدة شفاء الشق ونتائج هذه العملية فى منطقتنا.

طريقة البحث: هذه الدراسة الرجعية اجريت فى مدينة رانية من 1 تموز 2006 – 31 كانون الاول2011 على 71 مريضا مصابا بالشق الشرجى المزمن وتم علاجهم باجراء عملية قص المعصرة الشرجية الداخلية. توقف17 مريضا عن المتابعة و بقى المجموعة الفعلية للدراسة 54 مريضا.

النتائج: تتراوح اعمارالمرضى بين 18- 57 سنة مع متوسط العمر 32.5 سنة. كانت نسبة الاناث الى الذكور3: 1 . اظهرت نتائج دراستنا ان 49 (90.7%) مريضا من هولاء المرضى ابدوا ارتياحا كبيرا من العملية ما عدا 5 (9.3%)مرضى شكوا من الحكة و الامساك و الام خفيفة . افاد اربعة (7.4%) مرضى تسرب السوائل من حين الى اخر، و 11 (20.4%) مريضا كان لديهم سلس الغازات، و لم يشكو اى مريض من سلس البراز الصلب.

الاستنتاجات: ان عملية قص المعصرة الشرجية الداخلية علاج امن و فعال للشق الشرجى المزمن رغم وجود احتمال سلس السوائل و الغازات الذى يمكن ان يكون احد اعراض الشق الشرجى المزمن و ليس من مضاعفات العملية الجراحية.