OPEN LATERAL SPHINCTEROTOMY – A METHOD OF CHOICE IN THE TREATMENT OF CHRONIC ANAL FISSURE. INDICATIONS AND RESULTS

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ABSTRACT

Aim: The key to the treatment of chronic anal fissures is the reduction of the abnormal values of anal resting pressure. The aim of the surgical treatment is to reduce the activity of the internal anal sphincter and to provide proper conditions for the fissure to cure, which can be achieved by internal sphincterotomy. In the modern surgical practice the internal sphincterotomy is performed away from the fissure, lateral of the last, using open or closed technique.

Methods: In our study we performed open lateral internal sphincterotomy (OLST) of 82 patients with chronic anal fissure, compared to a control group of 231 patients, treated with different methods.

Results: We didn't register any recurrences in the sixth post-operative moth after OLST. 11% of patients with OLST were with registered incontinence after the sixth post-operative month compared with 4.4% in non-OLST patients. The data was statistically significant (p=0.032)

Conclusion: Choosing an OLST as a method for treatment of chronic anal fissure requires careful selection of patients. It is not recommended for patients with a risk of incontinence like those with a previous birth trauma, age beyond 60 years, previous ano-rectal operations, neurological diseases and low values in anal resting pressure.

Keywords: *internal lateral open sphincterotomy, chronic anal fissure, anal incontinence*

INTRODUTION

The key to the treatment of chronic anal fissure is the reduction of the abnormal values of rest anal pressure. The aim of the surgical treatment is to reduce the activity of the internal anal sphincter9,17 and to provide proper conditions for the fissure to cure, which can be achieved by internal sphincterotomy (3,13,17)

The internal sphincterotomy is first performed by Miles, while Eisenhammer made it more popular by introducing a method for simultaneous posterior approach for excision of the fistula and fissure. Subsequently this technique was not recommended because of the long post-operative wound, which is present several week after surgery3 with subsequent deformation of the anus like a "keyhole" and additional anal incontinence with different degree of presentation.

Posterior sphincterotomy is followed by 37% chance for anal incontinence10. The treatment of this complication is very difficult, even in some cases impossible.

Performing the sphincterotomy in the location of the fissure brings higher risk for development of an abscess, stenosis or incontinence (17,19).

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In the modern surgical practice the internal sphincterotomy is performed at location away from the fissure, lateral from it, using open or closed technique (6,20).

Metaanalysis of the results of the treatment of 2727 patients with chronic anal fissures showed that the lateral sphincterotomy gives better outcomes compared to anal dilatation. The results can`t favor which technique to use – closed or open, but Nelson recommends the lateral sphincterotomy in comparison with posterior sphincterotomy (12).

MATERIALS AND METHODS

Prospective interventional study of a population group with specific type of disease, including 11 years period. A total of 82 patients who suffered lateral sphincterotomy were included and they were compared with control group of 231 patients, treated with other type of treatment. Sphincterotomy was performed using open technique. The line of incision of the fascicules of the internal anal sphincter in proximal direction reached the level of linea dentata.

A success in the treatment was accepted as lack of both recurrence and anal incontinence.

The criteria for reoccurrence that we used are lack of epithelization and pain persistence.

The criteria for incontinence were based on a query card, proposed by the Fecal Incontinence Severity Index (FISI)19, which patients filled in before surgery, on the first and on the sixth post-operative months. The results are shown in table 1.

The maximal score was 61 which corresponds with the highest level of registered incontinence. The severity of the last can be divided into three groups:

1. Mild degree of incontinence – score between 0 and 10 points

2. Moderate degree of incontinence – score between 11 and 30 points

3. Severe degree if incontinence – score between 31 and 61 points.

The data was statistical data was analyzed using SPSS 12.0.1. For significance of the results we accepted $p< 0,05$

RESULTS

1. Recurrence:

On table 2 we present the distribution of different criteria for recurrence and the share of the complains among the patients on 1-st post-operative month after OLST

The analysis of the data shows that after OLST there is a significant reduced pain in the 1st post-operative month while there is no significant increase of epithelization. After the sixth post-operative month we registered 5 recurrences treated without OLST and none in the OLST group.

2. Anal incontinence from FISI-card inquiry

After receiving the data from the FISI-cards inquiry we summed the points for every patient. The data is shown in table 3.

We analyzed the data from the query cards and we can report that the patients suffered OLST have less points according to the FISI-score on the first post-operative month. The data is statistically significant – $p=0,006$

On the table 5 we present patients on the first post-operative month distributed into groups according the FISI classification for anal continence.

On the first post-operative month the results regarding the continence of the anal sphincter complex are better than in the group who suffered non-OLST treatment.

The number of patients who experienced incontinence on the sixth post-operative month is higher in the group who suffered OLST (11%), compared with the non-OLST group (4,4%). The results are statistically significant – $p = 0,032$

Table 1. Results from query card for the severity of anal incontinence according FISI

	2 or more times a day	Once a day	2 or more times a week	Once a week	1to 3 times a month	Never
Gas	12	11	8	6	4	0
Muicus	12	10	7	5	3	0
Liquid Stool	19	17	13	10	8	0
Solid Stool	18	16	13	10	8	0

Table 2. Distribution of cases with OLST by criteria for recurrence on 1-st post-operative month

Methods	**No epitelization**		**Epitelization**		**Pain**		**No pain**	
	n	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Without OLST	79	34,1	152	65,9	78	33,7	153	66,3
OLST	22	26,8	60	73,2	5	6	77	94

Table 3. Distribution of patients who suffered OLST and non OLST treatment for anal fissures according to FISI-score on the first post-operative month.

Maximal score FISI		**No OLST**		**OLST**		**Total**	
		n	**%**	**n**	**%**	**n**	**%**
1-st post-operative month	0	139	60,17	52	63,41	191	61,02
	3	3	1,30	4	4,88	7	2,24
	4	12	5,19	13	15,85	25	7,99
	5	9	3,90	0	0	9	2,88
	6	2	0,87	1	1,22	3	0,96
	7	43	18,61	8	9,76	51	16,29
	8	0	0	2	2,44	2	0,64
	9	3	1,30	1	1,22	4	1,28
	10	6	2,60	0	0	6	1,92
	11	4	1,73	0	0	4	1,28
	13	5	2,16	1	1,22	6	1,92
	15	12	5,19	0	0	2	0,64
	16	1	0,43	0	0	1	0,32
	23	1	0,43	0	0	1	0,32
	missing	1	0,43	0	0	1	0,32
Total		231	100,0	82	100,0	313	100,0

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Table 4. Distribution of patients who suffered OLST and non OLST treatment for anal fissures according to FISI-score on the sixth post-operative month.

Maximal	0		3		4		7		Missing		Total	
score	n	%	n	%	n	%	n	%	n	%	n	%
No OLST	216	93,50	2	0,87	6	2,60	2	0,87	5	2,16	231	73,80
OLST	72	87,80	3	3,66	5	6,10	2	2,44	0	0	82	26,20
Total	288		5		11		4		5		313	100,0

Table 5. Distribution of patients according to the FISI-score for anal incontinence

	1-st month							
	Continence		Mild degree of incontinence		Moderate degree of incontinence		Total	
	n	%	n	%	n	%	n	%
No OLST	139	60,4	78	33,9	13	5,6	230	73,74
OLST	52	62,0	29	34,0	1	4,0	82	26,20
Missing	-	-	-	-	-	-	1	0,3
Total	-	-	-	-	-	-	313	100,0

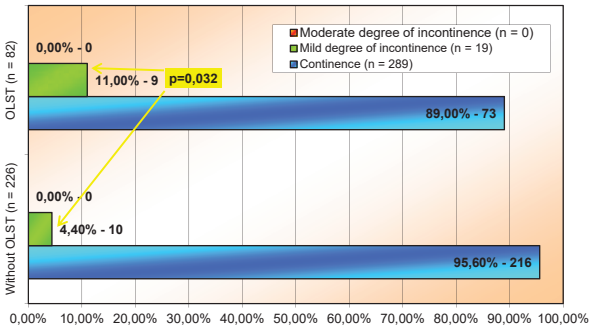

Fig. 1. Distribution of patients on the sixth post-operative month according to FISI score for continence

DISCUSSION

According to different sources full healing of anal fissure after lateral sphincterotomy is observed in 92-100% of patients 14,17,18. In our study we didn`t register any recurrences in the sixth post-operative month after OLST, which makes the results comparable with other studies based on this problem.

Short-term mild or moderate incontinence in around 9% of the patients was reported by Leong7, which was overcome for a period of 2-3 months. Permanent incontinence after OLST was reported in 5-6% of the cases. This complication is more frequent when using open technique compared with closed technique for sphincterotomy. The incontinence after internal sphincterotomy is usually short termed. Long term incontinence is about 6 - 7% (7,14,16).

After analysis of the data regarding incontinence on the first post-operative month we conclude mild incontinence in 34% of patients and moderate incontinence in 4%. We didn't register any patients with severe incontinence. Our data is comparable with Garcia – Aguilar4,study, who report permanent incontinence first degree in 30% of patients, second degree in 27% and third degree in 12% of patients, who suffered OLST. The difference in results is due to difference in the methods for classification and registration of incontinence. We used FISI for measuring the severity and staging of the incontinence, while the authors of the study from 1996 regard to the stages based on the incontinence of gas, fluids and feces.

In our study the share of patients, who experienced incontinence is higher in the group who suffered OLST (11%) compared with non-OLST group (4,4%). The analysis of our data shows that the continence of the anal sphincter complex is better on the first post-operative month and gets worse with time resulting in more patients with anal incontinence in the group who suffered OLST on the sixth post-operative month.

The use of sphincterotomy for treatment of anal fissures requires careful selection of patients. It is not recommended in patients with high risk for anal incontinence: previous birth trauma, age over 60 years, previous ano-rectal operations, neurological diseases and registered low values of rest anal pressure15. The length of the performed sphincterotomy corresponds with the risk of development of post-operative anal incontinence. Thus, the intervention must be carefully performed considering the clinical data (5,8,11).

These imminent results show that the sphincterotomy as a method for treatment of anal fissures brings risk of development of anal incontinence, which is higher compared to using OLST2. The dilemma is between the excellent result and the development of postoperative anal incontinence.

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