

Original Article

RESULTS FROM APPLYING ANAL DILATATION IN TREATMENT FOR CHRONIC ANAL FISSURE

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Received: October 26, 2012

Revision received: November 17, 2012

Accepted: November 27, 2012

Summary

Controlled anal dilatation is a widespread method in the complex treatment of chronic anal fissure (CAF). The views of different schools are controversial, and so are the published results. Most colorectal surgeons believe that anal dilatation can be effective in the treatment of anal fissure. If this approach is chosen, the risk of anal incontinence should be explained to the patient. The incidence of incontinence varies widely and depends on the degree of dilatation and associated risk factors: age over 60 years, vaginal birth, previous surgery of the perineum and anus, neurological diseases. In our study, involving 155 patients, who underwent controlled anal dilatation, the rate of relapses was 2.5%, and the cases of mild degree permanent anal incontinence accounted for 11.2% of the cases. This allows us to assume that AD is effective in the treatment of CAF, provided strict criteria are applied in patient selection and preoperative evaluation of the functional status of the anal sphincter complex is made.

Keywords: anal dilatation, anal fissure, anal incontinence

Introduction

Anal dilatation (AD) is applied and recommended for treatment of chronic anal fissure (CAF) by Graham and Stewart [1], Watts [2], Lord [3] and Hancock [4]. Forced anal dilation can cause disturbances in anal continence. In controlled anal dilatation, healing of the chronic anal fissure is achieved in 93% of cases, without development of incontinence [5]. Air-balloon dilatation leads to healing in 94%. Relapses after anal dilatation vary between 2% and 16% [2, 6, 7]. Side effects of anal dilation include: bleeding, hematoma, anal discomfort, first and second degree of anal incontinence, urinary retention or incontinence. In case of hemorrhoids, anal dilatation may lead to prolapse of the anus [2].

Transient incontinence after anal dilatation in over 30% of case has been reported by Watts [2]. Permanent incontinence has been found in more than 10% of the patients [8]. The incidence of incontinence varies, depending on the degree of dilatation and associated risk factors: age over 60

years, vaginal birth, previous surgery of the perineum and anus, neurological diseases.

Materials and Methods

A prospective interventional study of population groups with a certain type of disease, involving an 11-year period from 2001 to 2011 was carried out. It covered 155 patients with chronic anal fissure, treated at the University Hospital in Pleven. These patients underwent controlled anal dilatation, as a separate procedure or in combination with other surgical methods, and

was compared with a control group of 158 patients who had not undergone anal dilatation.

Lack of epithelialization and persistence of the pain were used as criteria for relapse. In the presence of at least one of the two signs, a lesion was reported.

The criteria for incontinence were based on an inquiry card proposed by Fecal Incontinence Severity Index (FISI), performed preoperatively and on the first and sixth postoperative months. We used the table and values for severity offered in the formation of FISI (Table 1) [9].

Table 1. Inquiry card for severity by FISI

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

The maximum number of points that can be collected is 61, which is the highest level of registered incontinence. The severity of incontinence was divided into three groups:

- Mild incontinence - severity from 0 to 10 points.
- Moderate incontinence - severity from 11 to 30 points.
- Severe incontinence - severity from 31 to 61 points.

The data was entered and processed with the statistical package SPSS 12.0.1. The level of significance for rejecting the null hypothesis was chosen as $p < 0.05$.

Results

We applied controlled anal dilatation alone in 34 patients, and in combination with other surgical methods in 118 patients (Figure 1).

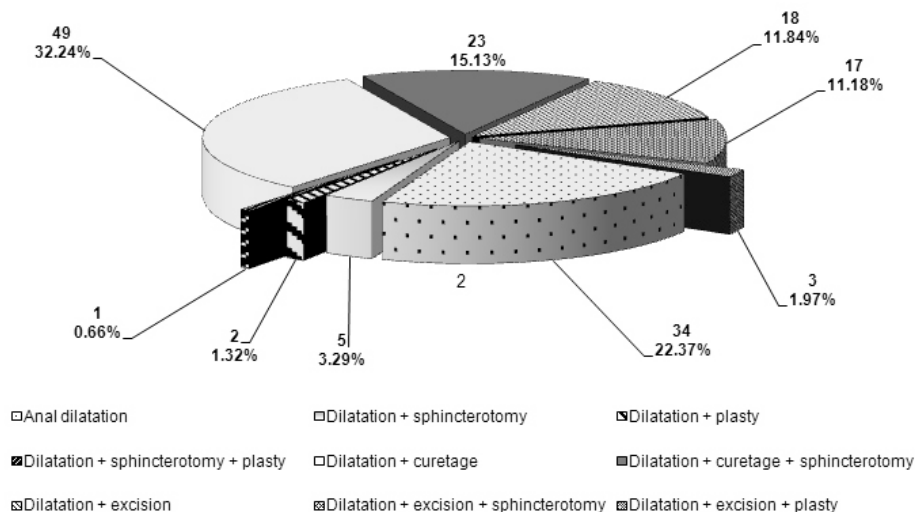


Figure 1. Distribution of the cases with anal dilatation

The results at the first postoperative month, according to the criteria for relapse after anal dilatation, are presented in Figure 2.

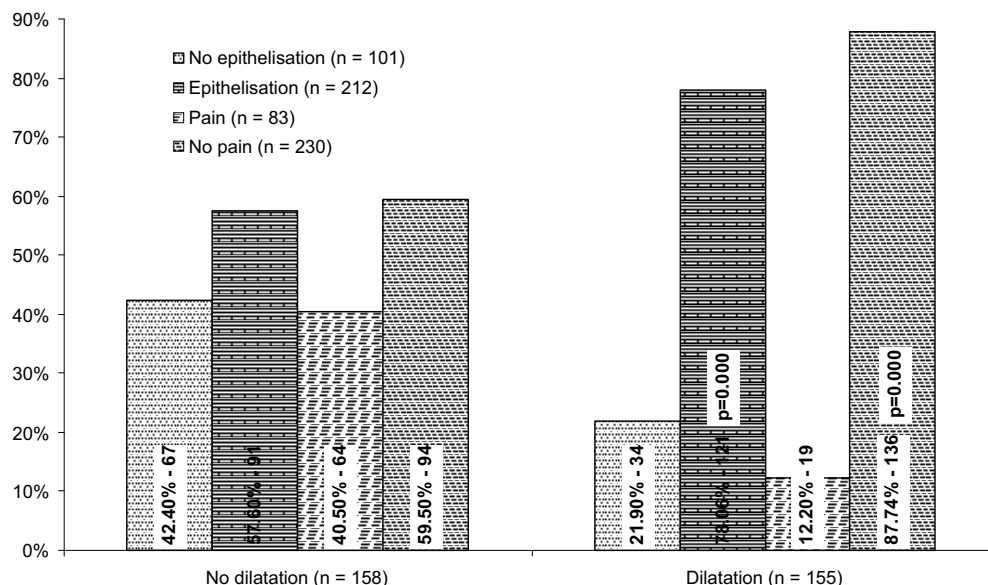


Figure 2. Distribution of the cases after AD by criteria for relapse – 1st postoperative month

Relapses after the first postoperative month were more frequent in cases without anal dilatation applied, which is statistically significant ($p = 0.000$). The results after the sixth postoperative month were in favor of the cases in which anal dilatation was not applied. Relapses in this group were 0.63% (1 patient) versus 2.5% (4 patients) in the group with applied anal

dilatation.

The results for continence of the anal sphincter complex after the formation of the groups by severity by FISI, on the first and sixth postoperative months, in the case of applied AD and in the cases without an applied AD are presented in Figure 3 and Figure 4.

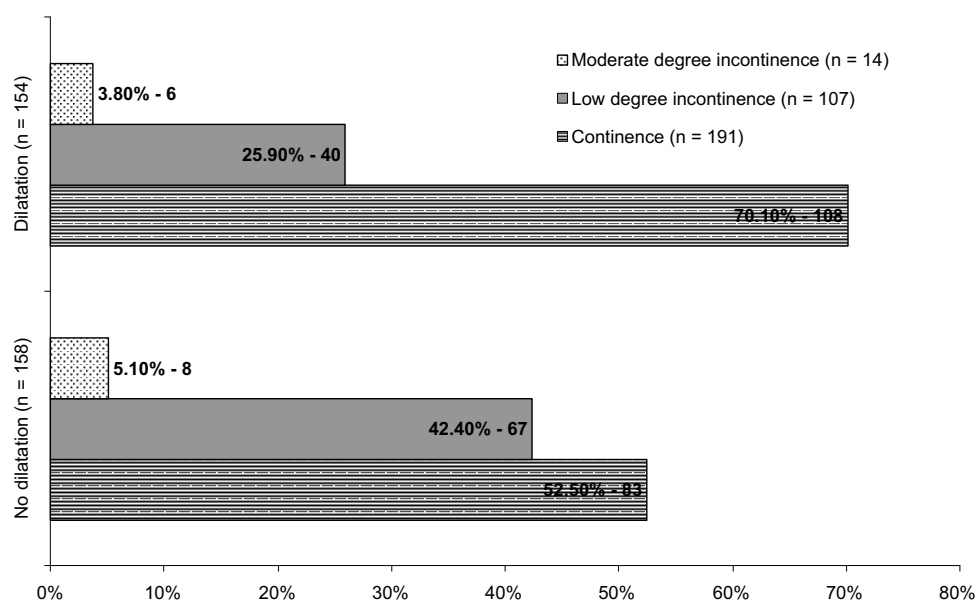


Figure 3. Distribution of the cases after AD by severity grade of registered incontinence by FISI – 1st postoperative month

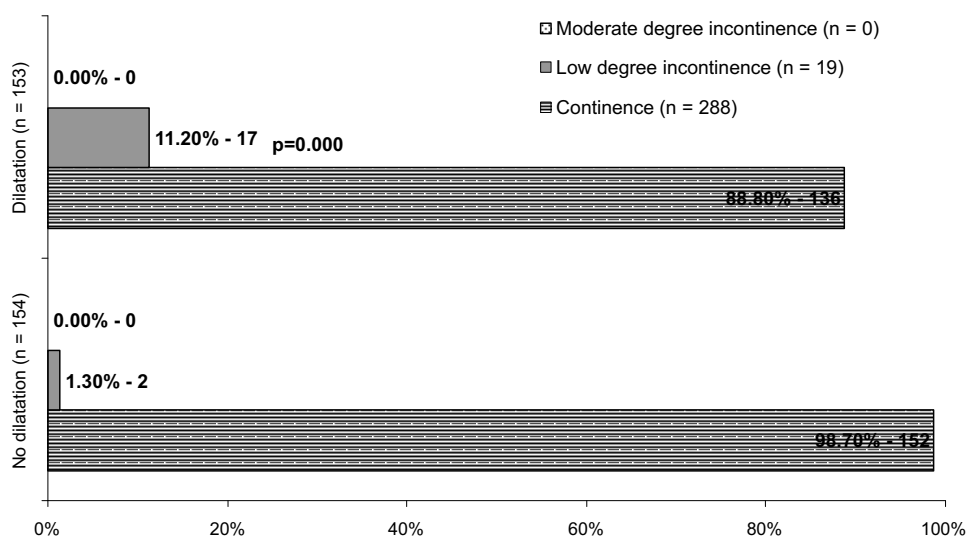


Figure 4. Distribution of the cases after AD by severity grade of registered incontinence by FISII – sixth postoperative month

The anal incontinence registered after forming the groups according to severity grade by FISII, after the first postoperative month, was in favor of the cases of anal dilatation – 25.90% with a mild grade, and 3.80% with moderate grade, versus 42.40% of mild grade and 5.10% of moderate grade, in the cases without anal dilatation applied. The result reported is not statistically significant. The severity of incontinence registered in the patients with AD, as compared to those in whom it was not applied, was higher after the sixth postoperative month, which is statistically significant ($p=0.000$).

The cases with registered incontinence in both groups decreased in number and severity over time. In the cases of applied anal dilation the percentage of registered anal incontinence, after the sixth postoperative month, decreased to 11.20% (mild grade) and 0% (moderate grade).

In the cases without an applied anal dilatation, after the sixth postoperative month, the percentage of registered anal incontinence has dropped to 1.30% (mild degree) and 0% (moderate degree).

Discussion

The relapse rate after anal dilatation reaches 16% [2]. The analysis of our results shows relapse in 2.5% after the sixth postoperative month, comparable with the research data reported by Oh, who reported a 2% recurrence in 200 patients

[6]. The results of Weaver [9] and Marby [11] are 5% relapses at the end of the first year, in respectively 63 and 78 patients with controlled anal dilatation applied. The difference between their results and the results from our study is probably due to the shorter follow-up period of the cases and in the smaller number of the cases with separately applied AD ($n=34$) in our study. In our series, after the sixth postoperative month, the relapse rate in the group with applied anal dilatation was 2.5% ($n=4$), and 0.63% ($n=1$) in the group without anal dilatation.

The analysis of the results from the inquiries, regarding the severity of registered incontinence by FISII the first and sixth postoperative months, demonstrated the following relationship:

On the first postoperative month, the percentage of registered anal incontinence was lower in the group with controlled anal dilatation applied – 25.90% mild degree and 3.80% moderate degree, versus 42.40% mild degree and 5.10% moderate degree in cases without anal dilatation applied. The reported result is not statistically significant.

After the sixth postoperative month, the rate of registered anal incontinence was higher in the group with controlled anal dilatation applied – 11.20% mild degree and 0% moderate degree, versus 1.30% mild degree and 0% moderate degree in the group without anal dilatation applied, which is statistically significant ($p=0.000$). The cases of incontinence registered

in both groups decreased over time in number and severity.

Our results are comparable to the data from studies reported in the literature. Our enclosed controlled anal dilatation led to 25.9% mild degree and 3.8% moderate degree transitory incontinence, and 11.20% permanent incontinence. In his series of 90 patients, Wats [2] reported transitory incontinence after anal dilatation in 28%. In the series of Nilsen [8], the registered permanent incontinence after AD was over 10%.

Conclusion

Most colorectal surgeons believe that anal

dilatation can be effective in the treatment of the anal fissure. If this approach is chosen, the risk of anal incontinence should be explained to the patient [5, 8, 12-14]. The incidence of incontinence varies widely and depends on the degree of dilatation and associated risk factors: age over 60 years, vaginal birth, previous surgery of the perineum and anus, neurological diseases.

In our study, the percentage of relapse after AD is 2.5%, and the cases of mild grade permanent anal incontinence added up to 11.2%. This makes us assume that AD is effective in the treatment of CAF, after careful selection of patients and reliable preoperative evaluation of the functional status of the anal sphincter complex.

References

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