

## PELVIC FLOOR DYSFUNCTION IN PATIENTS PRESENTING WITH CHRONIC ANAL FISSURE

### Hypothesis / aims of study

Anal fissure is one of the most common proctological problems. Chronic anal fissure is a painful problem involving a tear or ulcer in the epithelium of the anus, which exist longer than 6 weeks. Although the aetiology of chronic anal fissure is uncertain, it is assumed that pain causes an increased sphincter tone leading to ischemia of the anal sphincter. This inhibits fissure healing, generating a vicious circle of pain and constipation thus prolonging the healing process. A proportion of patients with chronic anal fissure have a history of constipation and obstructed defecation. Damage of the anal mucosa leads to hypersensitivity of the contact receptors of the external anal sphincter(EAS) continence reflex resulting in overreaction of the reflex that leads to hypertonicity of the EAS(1). In patients with anal fissure a paradoxical contraction of the puborectal muscle can occur resulting in an increase in the anorectal angle, prohibiting the normal passage of stool.

In 10% of patients, the anal fissure does not heal, with conservative therapy. In those cases, local botulin toxin injections, lateral internal sphincterotomy (LIS) and or fissurectomie are recommended. A LIS is still the standard care for surgical treatment of anal fissures despite the potential complication of incontinence. However, possibly in this patient category pelvic floor dysfunction could be a contributing factor in delayed healing. In that case pelvic floor physiotherapy may be of benefit. Effects of treatment with pelvic floor physiotherapy on dyssynergia on healing of anal fissure are currently unknown.

The aim of the present study was to evaluate the relation of pelvic floor dysfunction and chronic anal fissure.

### Study design, materials and methods

Patients with chronic anal fissure presenting or referred to an independent treatment center were analysed from 2016-2017.

Data were collected in a prospective database and included demographics, localization of fissure, duration of complaints, previous treatment, current treatment, (radio) diagnostics and results in follow-up. A fissure was considered chronic if the patient had complaints for more than six weeks or with a history of recurrent episodes of pain. Healing was defined as macroscopic evidence of epithelialization with scar tissue at the site of the fissure. Patients with Crohns disease, ulcerative colitis, a history of anal malignancy or radiation were excluded. Local treatment consisted of application of either 2% diltiazem, 3 times each day or isosorbidedinitrate (ointment) 5 times each day. Patients with a history of obstipation or Bristol 1, 2 or 3 stools and straining during defecation received laxatives, mostly consisting of fibres and advice regarding their diet and toilet habits(2).

Pelvic floor dyssynergia was diagnosed by transperineal ultrasound and digital rectal examination(3). When pelvic floor dysfunction like dyssynergia and/or hypertonicity was evident, patients started with pelvic floor physical therapy including biofeedback.

Quality of life was measured by SF-36 questionnaire at 4 intervals; pain was scored using a VAS-scale (range 0-10). Obstructed defecation was measured using the Altomare questionnaire (range 0 – 31).

Results were analysed with SPSS-version 24, using descriptives and frequencies.

### Results

Forty-eight patients were included in this study. The mean age was 40,7 years (range 21-75 years), 12 men (21.8%) and 36 women (65.5%).

Duration of complaints was 32,1 weeks (range 2-160 weeks), 14,5 % of the patients had acute anal fissure and 85,4 % chronic anal fissure. No patients were treated with Botox. Mean of pain score was 5,9 (SD 2,3) (range 0-10) at inclusion.

Location of the fissure was posterior in 58.2% of patients, anterior in 20.0%, not visible in 5.5% and other in 3.6%. 1 patient was diagnosed with an abces and had surgery.

Altomarescore mean 12,6 (SD 7,5).

Finally, results of 41 patients after 6 weeks ointment and laxatives were included (Table).

In 26 patients (47,3%) pelvic floor dyssynergia was evident.

**Table: Baseline characteristics**

<b>Total</b>	N=48
<b>M</b>	12
<b>F</b>	36
<b>Age (years, median)</b>	40,7 (SD12,6)
<b>Duration of complaints</b>	32,1(SD36,3)
<b>Localization</b>	
anterior	20,0%
posterior	58,2%
not visible	5,5%
other	3,6%
<b>Faecal Incontinence</b>	0,0%
<b>Pelvic floor dyssynergia</b>	47,3%

### Interpretation of results

Patients presenting with anal fissure in a referral centre often have longstanding complaints and an inadequate response to conservative treatment methods. Obstipation was not a main complaint in this group.

A careful anorectal examination was performed in every patient including pelvic floor examination. This was completed by endo-anal ultrasound and perineal ultrasound. Almost 50 % of the patients demonstrated pelvic floor dysfunction. In these cases medical treatment combined with pelvic floor physiotherapy may lead to an improvement of healing rate. There is no other existing literature on the concurrent existence of pelvic floor dysfunction and anal fissure.

### Concluding message

Pelvic floor dyssynergia was found in a large percentage of the patients presenting with anal fissure.

We hypothesise that pelvic floor examination and pelvic floor physiotherapy may be important in the treatment of chronic anal fissure.

### References

1. van Meegdenburg MM, Trzpis M, Heineman E, Broens PM. Increased anal basal pressure in chronic anal fissures may be caused by overreaction of the anal-external sphincter continence reflex. *Med Hypotheses*. 2016;94:25-9.
2. Miller LE, Ibarra A, Ouwehand AC, Zimmermann AK. Normative values for stool frequency and form using Rome III diagnostic criteria for functional constipation in adults: systematic review with meta-analysis. *Ann Gastroenterol*. 2017;30(2):161-7.
3. Rao SS, Patcharatrakul T. Diagnosis and Treatment of Dyssynergic Defecation. *J Neurogastroenterol Motil*. 2016;22(3):423-35.

### Disclosures

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