

## Case Study

# LEVATOR ANI SYNDROME: A CASE STUDY

Mayuri Sharma

Assistant Professor. Shri U.S.B. College of Physiotherapy, Rajasthan, India.

## ABSTRACT

**Background and Purpose:** The purpose of this case report is to describe the physiotherapy management of a patient with overactivity of the pelvic-floor muscles with a limited number of visits and a focus on self-management strategies. Electrogalvanic stimulation (EGS) has been established as a safe and effective treatment for the management of levator ani syndrome (LAS). There is a paucity of recent literature regarding this treatment modality. So the aim is to review recent experience with EGS along with stretching of piriformis & myofascial release techniques. in the treatment of levator ani syndrome.

**Case description:** This case involved a 40-year-old married woman with levator ani muscle overactivity that was 5 month in duration.

**Intervention:** Therapist instructed the patient on how to control the levator ani muscles, and instructed her on relaxation techniques along with electrical stimulation, sitz bath and myofascial release.

**Outcomes:** the patient attended 15 physical therapy sessions over a period of 4 weeks then once in a week over period of next 4 week. She performed relaxation exercises at home. She rated pain during intercourse as 0/10 on verbal rating scale & had no remaining tenderness in the levator ani muscle at discharge.

**Discussion:** Some women with levator ani syndrome may improve with an intervention that emphasizes education and vaginal self-dilation techniques. Future research should compare home-based and clinic-based treatments.

Musculoskeletal dysfunction, specifically muscle pain & overactivity of levator ani muscle is the cause of levator ani syndrome, overactivity of the levator ani muscle is a condition in which these muscle do not relax completely & pain itself may cause spasm of levator ani muscle.

The goal of physical therapy intervention for LAS is to reduce vaginal and anal pain by reducing overactivity of pelvic floor muscle, improving the patient ability to control these muscle & increasing the ability of vaginal tissue to tolerate stretch.

Physical therapist interventions for LAS include the use of manual therap, exercise, relaxation exercises, hot pack and galvanic stimulation.

**KEY WORDS:** Electrical Stimulation, Levator ani syndrome.

**Address for correspondence:** Dr. Mayuri Sharma, PT., Assistant Professor. Shri U.S.B. College of Physiotherapy, Rajasthan, India. **E-Mail:** [mayuri\\_489@rediffmail.com](mailto:mayuri_489@rediffmail.com)

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## INTRODUCTION

Levator ani syndrome (LAS) is defined by chronic or recurring episodes of rectal pain or aching in the absence of structural or systemic disease explanations for these symptoms[1]. The diagnosis is said to be "highly likely" if the

patient reports tenderness on palpation of the levator ani muscles. The Rome III criteria [2] (TABLE1) use the term "chronic proctalgia" to refer to the same symptoms. The likely cause of LAS is spasm of the levator ani muscles. Sitz baths, muscle relaxant, massage of levator

Muscles, electrogalvanic stimulation and biofeedback were described as methods for treatment. The cause of levator ani syndrome often is unknown, but it may accompany other conditions (eg, anorectal infection or surgery or trauma). They noted that the syndrome's most common cause was anal infection. He believed the proximity of the lymphatic drainage to the pelvic musculature was responsible for myositis or reflex spasm of the levator ani muscle[2,3]. He also reported associated spasm of the piriformis muscle in 43.7% of the 324 patients he examined.

A common physical finding is tenderness on palpation of the left levator muscles. Symptoms include intermittent pain or discomfort in the perirectal region. Pain is believed to be referred from spasm of the levator ani muscle, lasting several seconds to several hours[4]. Most often the patient complains of pressure and pain within the rectum that may be severe, sharp, aching, or burning. Sitting may increase the symptoms, and the patient may awake at night from the pain. Generally, the pain is unrelated to bowel function; however, defecation may exacerbate the pain.

**AIM:** Electrogalvanic stimulation (EGS) has been established as a safe and effective treatment for the management of levator ani syndrome (LAS). There is a paucity of recent literature regarding this treatment modality. The purpose of this study is to review recent experience with EGS along with stretching of piriformis in the treatment of levator ani syndrome.

### **Rome II criteria for levator ani syndrome [5]**

Criteria for the diagnosis of functional levator ani syndrome - all of the following:

- (1) A duration of symptoms  $\geq$  12 cumulative weeks over the past 12 months (may or may not be consecutive).
- (2) Chronic or recurrent rectal pain, feeling of pressure or aching that may be worse with sitting or lying down.
- (3) Episodes last 20 minutes or longer (may last several days)
- (4) The symptoms can be elicited by digital massage of the levator ani muscle.
- (5) Exclusion of other causes following a complete examination.

where:

- In proctalgia fugax the pain is much shorter in duration.

Exclusions:

- (1) ischemia
- (2) inflammatory bowel disease
- (3) cryptitis
- (4) intramuscular abscess
- (5) fissure
- (6) hemorrhoids
- (7) prostatitis (in males)
- (8) solitary rectal ulcer

**At least 12 weeks, which need not be consecutive, in the preceding 12 months of:**

- chronic or recurrent rectal pain or aching
- episodes last 20 minutes or longer, and
- other causes of rectal pain such as ischaemia, inflammatory bowel disease, cryptitis, intramuscular abscess, fissure, haemorrhoids, prostatitis, and solitary rectal ulcer have been excluded.

**History:** A 40 yrs old registered gynaecologist attended physiotherapy clinic because of vaginal and anal pain for 5 months. she described that the pain has started shortly after sitting for 45 min. & was constricting in nature and moderately severe. There was no rectal bleeding & no recent change of bowel habit. on rectal examination there was mild tenderness at the left side of rectal canal and anterior wall of vagina.

Her significant medical history included vaginal infection, anal fissures & anal fissurectomy. Her primary goal is to eliminate pain during sitting.

**Examination and Evaluation:** A lower quarter screen was performed to rule out neurological or musculoskeletal dysfunction. This screen included examination of the range of motion of the hips and back; myotome testing of L2-S1; palpation of bony landmarks of the lumbar spine, sacrum, and pelvis for symmetry and pain; motion testing of the sacroiliac joint; palpation of the musculature of the abdominal wall and buttock; and reflex testing [6]. The lower-quarter screen was negative for lumbar and sacroiliac joint dysfunction, pain, weakness, neurological dysfunction, and reproduction of symptoms.

After obtaining appropriate verbal consent, an internal pelvic-floor muscle examination was performed due to the patient's chief complaint of vaginal pain. The examination was performed in the dorsal lithotomy position. Sensation in the S2–4 dermatomes, tested with a cotton-tipped swab, was normal [7]. To examine for pain, pressure was applied to the pelvic-floor muscles externally [7], and internally through vaginal palpation using one digit [8].

The patient accepted pain with external palpation. Any pressure or stretch internally to the vaginal anterior & sidewalls caused immediate tenderness and pain that reproduced her pain during sitting (or OPD hrs).

The location of tenderness in the levator ani muscle group was confirmed by asking the patient to contract her pelvic-floor muscles [9]. The palpable increase in muscle tension at the location of tenderness confirmed that the site of pain was in the levator ani muscle bulk.

**Diagnosis:** The patient's primary complaint was pain during sitting. My diagnosis included pain and overactivity of the levator ani muscle. Based on the physical examination, it did not appear that her symptoms arose from any abnormality of the lumbar spine, sacroiliac joint, abdominal wall, or other lower-extremity muscle system.

**Intervention:** After completing the examination, the patient was cued to contract her pelvic-floor muscles, and the gloved examination finger was inserted or a stretch applied during the relaxation phase after the contraction. FitzGerald and Kotarinos [10] and Weiss described this contract/relax technique as promoting muscle relaxation by applying a stretch immediately after an isometric muscle contraction and maintaining the stretch pressure as the patient contracts again. I cued the patient to relax her muscles using this technique and using deep breathing. Repeated stretches were applied to the posterior and side walls of the vagina. Her pain during the stretches decreased when she could achieve muscle relaxation below the normal resting state of the muscle.

According to a review article by Salvati [3], digital massage of the levator ani muscles, from anterior to posterior, in a firm manner to tolerance at 3–4 week intervals will alleviate

symptoms [11]. The affected side if unilateral, or both if bilateral, should be massaged up to 50 times depending on the patient's tolerance.

Myofascial release is also given to the levator ani muscle. In a cohort study of 57 subjects (31 patients and 26 controls), sitz baths of 40°C were found to reduce anal canal pressures in both patients with anorectal problems and in the controls [12]. The efficacy of sitz baths in LAS is uncertain, but they have no harmful effect [12].

Since intermittent levator ani muscles spasm is the most likely cause of LAS, electrogalvanic stimulation was first described by Sohn et al [13] in 1982. The mechanism for pain relief was the induction of spasmodic muscle fasciculation and fatigue in LAS patients by repeated application of a direct electrical current. In this series, the use of high voltage electrogalvanic stimulation of the levator ani muscles produced complete or partial pain relief in 90% of patients. Thereafter, three case series and one cohort study [14] have shown that electrogalvanic stimulation could attain satisfactory pain control in 40–91% of patients suffering from LAS [13,14].

## DISCUSSION AND CONCLUSION

The purpose of this case report was to describe the management of a patient with levator ani muscle pain and overactivity over a minimal number of visits, with an emphasis on home-based treatment. Digital massage, sitz bath, relaxation exercises & electrogalvanic stimulation have all been reported to be effective in treating LAS & cause no harm.

Holland described physical therapist management of dyspareunia in 31 visits that included myofascial release techniques, moist heat, biofeedback, exercise, and vaginal dilation using a taper candle at home. But the patient described in this case report receives only 15 visit physical therapy sessions over a period of 4 weeks then once in a week over period of next 4 weeks that is almost half session compared to previous study.

### Limitation:

Present case study lacks a quality-of-life scale and lack of validated sexual function questionnaire as an outcome measure



## ABBREVIATIONS

**LAS-** Levator Ani Syndrome

**EGS-** Electrogalvanic Stim Ulation

**Conflicts of interest: None**

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