48th Annual Meeting

June 21-24 / 2023
The Hague / The Netherlands

# Detection and Therapy of Trigger Points in the Levator Ani Muscle of the Pelvic Floor in Relation to Pelvic Pain Conditions Using Vaginal and Rectal Palpation, Treatment and Training

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IUGA international urogynecological association

## Introduction

Pain is a sensation and perception that we naturally encounter. Simon and Travell described myofascial trigger points (MTP) and the phenomenon of referred pain as early as 1983 (1). MTP distort muscle strength, endurance and coordination ability due to the inability of the muscle to work physiologically (2). Pelvic pain is defined as "abdominal pain below the navel; if this pain lasts for more than 6 months, it is referred to as chronic pelvic pain (CPP)". In addition, the prevalence of chronic pain in the overall population in Germany is 11.9 %. Since the examination of myofascial causes is not yet part of standard diagnostics, interprofessional referral to specialised physiotherapists is necessary (3).

## Aim

Prospective survey to assess diagnostic and therapeutic measures with patients who presented to a doctor at the Clinic for Urogynecology.

- Does the presence of trigger points change, power, endurance and elevation after four treatments?
- Does the sensation of pain change objectively measured by the examiner, Subjectively Australian pelvic floor questionnaire (APFQ) (German version DBBF), secondary endpoint 2. and the Visual Analogue Scale Pain (VAS)
- Can the treatment scheme of combining vaginal and rectal trigger point treatment (TPT) with subsequent local vaginal and rectal strengthening with MAPLe® Probe & EMG Device of the pelvic floor muscles be validated?

## Methods

- Patients signed in the inform consent
- positive ethics received
- For data analysis Excel and SPSS were used to determine standard deviation (SD), median with interquartile range (IQR), minimum and maximum and TP yes/no.
- Appointment 1 & 4: Australian Pelvic Floor Questionaire (German Version): Total score, subscores 1-4 ; VAS General pain 1-10; age, menopause yes/no, Pain duration in month.
- Appointment 1, 2, 3 & 4: Laycock-PERFECT scheme (4): Power: 0-5, Fast (SK:) 0-10, Endurance (A): 0-10, Elevation (E): yes-no, cough response: yes/no, Tone(T): normo-hypo-hyper: vaginally and rectally. MAPLe® Probe & EMG Device: Resting measurement (RM) 1 min, max. contraction (MVC) 10 rep., 3 sec contraction and 3 sec rest, endurance: 15 rep, 15 sec contraction, 15 sec rest, Identification and Triggerpointtreatment (TPT) on TP of M. puborectalis, M. pubococcygeus, M. iliococcygeus vaginal and rectal M. sphincter ani externus
- All exams were performed vaginally and rectally.

## Results

*Table 1: demographic overview*

| | Age | Menopausal | Pain duration (month) |
|---|---|---|---|
| Mean (SD) | 44 (15) | | 30 (32) |
| Median (IQR) | 39 (32 - 54) | | 21 (8 - 38) |
| Min-Max | 22 - 71 | | 2 - 156 |
| Yes (%) | | 12 (32, 4) | |
| No (%) | | 25 (67, 6) | |

*Figure 1: MAPle® Probe and EMG device*

*Figure 2: APFQ (DBBF) with subscores T1 to T4 in boxplot diagram and the Visual analogue Scale (VAS)*

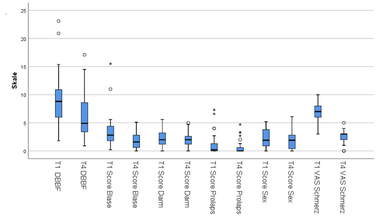


*Figure 3: vaginal power, endurance, fast contractions T1 to T4 in boxplot diagram*

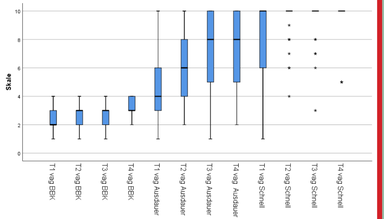


*Figure 4: rectal power, endurance, fast contractions T1 to T4 in boxplot diagram*

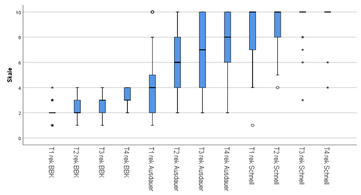


*Figure 5: vaginal elevation*

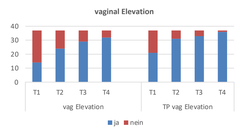


*Figure 6: vaginal cough response*

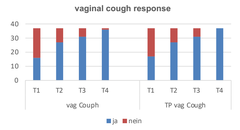


*Figure 7: vaginal tone*

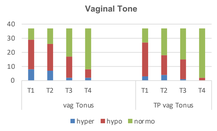


*Figure 8: rectal tone*

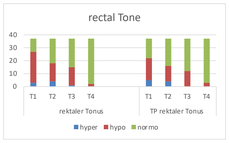


*Figure 89 rectal cough response*

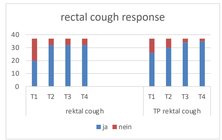


Fig 3 – Fig. 9 shows the results of the Laycock-PERFECT scheme

## Results and Discussion

The collected data sets reflect an age structure from 22 to 71 years and thus an age-independent problem. Despite the intense pain of a median VAS of 7 (6 - 8), the median duration of pain (IQR) is 21 months (8 - 38). The chronicity of pain can be explained by the non-standardised musculoscelettal assessment of pelvic pain described by Schwagerus et al., (3). However, several reviews repeatedly refer to the lack of standardised assessment of findings, especially in musculoscelettal assessment (5, 6, 7). It can be assumed that trigger points can be detected and treated differently in different environments. It makes sense to clarify organic causes within the different disciplines and to pay attention to myofascial and functional movement disorders. Regarding the research question, vaginal and rectal trigger point treatment was verified as a therapy for pelvic pain conditions affecting the puborectal (PRM), pubococcygeus (PCM) and iliococcygeus (ICM) muscles, as well as rectally the sphincter ani externus muscle (SAE). Both the Australian Pelvic Floor Questionnaire and the Visual Analogue Scale showed significant improvements after four therapy sessions.

The measurements before and after therapy stabilised the functional strength development of the pelvic floor muscles. This can be implemented by verifying the treatment concept of trigger point treatment with simultaneous targeted point-specific strengthening.

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## Conclusion:

Status dependant vaginal and rectal TPT offers significant pain reduction even in heterogenous pain patients. In addition to intracorporal palpation, the MAPLe® probe is an useful diagnostic and therapeutic adjunct. Vaginally and rectally TPT in combination with MAPLe® Probe & EMG Device vaginal was verified as a therapy for pelvic pain conditions affecting the PRM, PCM, ICM, vaginally as well as rectally the SAE. Both the APFQ and the VAS showed significant improvements after four therapy sessions

## Acknowledgements

We are thankful to the team of the clinic for Urogynecology of the German Pelvic Floor Centre, the patients who participated and all people who gave support the statistician, the student assistant and the collegues who discussed with us the results.

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