216

Stüpp L[1], Plöger C[1], Ferreira do Nascimento C[1], Apfel V[1], Takano C[1], Jarmy Di Bella Z[1], João Batista Castello Girão M[1], Gracio Ferreira Sartori M[1]
1. *Universidade Federal de São Paulo*

IMPACT OF PHYSIOTHERAPEUTIC INTERVENTION ON PELVIC FLOOR MUSCLE IN PATIENT WHO UNDERWENT MCINDOE VAGINOPLASTY SURGERY: A CASE REPORT

Hypothesis / aims of study
To evaluate the impact of physiotherapeutic (PT) intervention on pelvic floor muscle (PFM) in one patient who underwent vaginoplasty of McIndoe procedure.

Study design, materials and methods
A patient diagnosed with vaginal agenesis (VA) attending by medical section of genital malformation was asked to participate of this trial. Once enrolled, the patient was directed to ultrasound exam, performed by one urogynecologist. This procedure was reapplied after 10 sessions of physiotherapy. Ultrasound measurements included evaluation of levator hiatus (LH) area, during rest, Valsalva manoever and maximum voluntary contraction (MVC), using ultrasound 3D- Voluson 730 GE equipment. It was considered LH area as the area borded the pubovisceral muscles, pubic symphysis and the inferior pubic ramus. In addition, was measured the puborectal muscle both right and left sides standardizing it at five and seven o'clock at the omni view. Then, patient was referred to physiotherapy (PT) sector to perform the PFM evaluation, consisting of the following: function (by digital palpation by 0-5 Modified Oxford graduation and endurance), force (by dynamometry). Moreover, it was assessed the impact on sexual function by FSFI questionnaire. All PT methods were applied on three months postoperative period and after PT intervention. The PT treatment consisted of 10 sessions of proprioceptive and awareness training (PAT). The PAT included techniques to stimulate body scheme, motor learning and self-control of PFM contraction. The PAT was performed using anatomic model, 3D figures, videos and drawings. In addition, the majority of techniques was done offering the patient the possibility to watch the performance in real time, by using one photo camera coupled to a video monitor. Summarily: (a) two sessions of learning about anatomy, location and function of PFM by visual feedback. (b) Sessions 3-4 was focused in sensorial *inputs*, using the *quick reflex* and vaginal cones; (c) In sessions 5-6, patient was encouraged to training velocity of PFM contraction through auditory, visual and tactile stimulus and the use of *The Knack* maneuver; (d) In sessions 7-8 was stimulated the coordination of PFM contraction synchronizing movements and actions; (d) The two last sessions was used to elaborate and training one personalized protocol of exercises to three months home treatment.

Results
Due to the fact that VA is considered an uncommon disease, sample size calculation showed that the minimal number of eight patients is necessary for more accurate results. These preliminary results comprise a part of a prospective controlled trial. We present a case report of a 16-year old woman with VA who underwent vaginoplasty of McIndoe surgery. Previously, the patient presented vaginal length of 1 cm. After three months of surgical procedure and at moment of following measurements, this structure had increased to 5 cm. Comparing PFM function before and after intervention, the Oxford score was not modified (graduation four), but an increase of endurance was observed (4 sec to 6 sec). With respect to PFM force, there was a gain of 84% (0.25N to 0.46N). Regarding the sexual function (FSFI), the postoperative score was 3.2, increasing to 22.1 after 10 sessions of physiotherapy.
Ultrasound findings showed positive modifications, as described in table 1.

Table 1. Ultrasound measurements at baseline and after PT intervention.

	LH 4D	**Resting OW**		**Valsalva OW**		**MVC OW**		**LH OW**
		5h	7h	5h	7h	5h	7h	
Baseline	14.90	0.82	1.13	0.60	0.72	1.47	1.66	12.48
Final	12.41	1.12	1.06	0.96	1.08	0.67	0.91	12.38

LH: levator hiatus
MVC: maximal voluntary contraction
OW: Omni view

Interpretation of results
One RCT study (1) refers that VA can cause negative impacts in terms of sexual function, image body and self-esteem. The pelvic floor muscles (PFM) is capable of giving structural support for the pelvic openings (the urethra, vagina and anus) and has an important function on sexual activity (2). Physical therapy (PT) works directly in the proprioception and rehabilitation of these muscles in other diseases, as demonstrated by several studies. Our findings suggests that 10 sessions of PAT can enhance the PFM force, endurance, and modify the LH area measurement, which may contribute to improve the sexual function.

Concluding message
Until the date, there is no evidence with respect to PT intervention in cases of VA. However, our preliminary results showed positive modifications that can be a start of future investigations in this field. However, we recommend more investigations to reinforce the contribution of physiotherapy in these women.

References

1. Heller-Boersma JG, Schmidt UH, Edmonds DK. A randomized controlled trial of a cognitive- behavioural group intervention versus waiting-list control for women with uterovaginal agenesis (Mayer-Rokitansky-Küster-Hauser syndrome: MRKH). Hum Reprod. 2007;22(8):2296-301.
2. Talasz H, Himmer-Perschak G, Marth E, Fischer-Colbrie J, Hoefner E, Lechleitner M. Evaluation of pelvic floor muscle function in a random group of adult women in Austria. Int Urogynecol J (2008) 19:131–135.

Disclosures
Funding: None **Clinical Trial:** Yes **Public Registry:** No **RCT:** No **Subjects:** HUMAN **Ethics Committee:** UNIFESP/EPM research Ethics Committee - 56660 **Helsinki:** Yes **Informed Consent:** Yes