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ASSESSMENT OF ANAL PRESSURE BY DIGITAL PALPATION AND BY PERINEOMETRY IN MEN: IS THERE A CORRESPONDENCE BETWEEN THESE MEASURES WHEN WE EVALUATE PELVIC FLOOR MUSCLE FUNCTION IN INCONTINENT MEN AFTER RADICAL PROSTATECTOMY?

Hypothesis / aims of study

After radical prostatectomy, the pelvic floor muscles (PFM) become the main responsible for urinary continence maintenance, especially during efforts. There is evidence of the positive effect of the PFM training in urinary incontinence (UI) treatment in men [1]. An important step before the onset of the PFM training is the assessment of the PFM function. ICS recommends, as forms of assessment of the PFM function in men, the digital anal palpation or the perineometry [2]. While the digital anal palpation is more suitable to be used in clinical practice, perineometry might be more utilized in research. The use of different measurement scales make comparison among data difficult. Also, it creates barrier for the implementation of scientific evidence in clinical practice. Therefore, the objectives of this study were: a) To describe data about anal pressure in men after prostatectomy using digital palpation and perineometry; b) To investigate the relation between these two measurement scales; c) To determine the values of the digital palpation scale that correspond to the values measured by the perineometer.

Study design, materials and methods

In this cross sectional study, men with UI after radical prostatectomy were evaluated in two urology centers, between April and December/2012. The PFM function was assessed after catheter removal by a physiotherapist experienced in the PFM function evaluation. Digital palpation, using an ordinal scale from 0 to 5 (0 represented absence of PFM contraction; 5 represented excellent PFM contraction) and Peritron® 9300 (*CardioDesign*, Austrália) were used to assess anal pressure. Procedures were approved by the institution review board, and all participants signed the consent form before participation. The relation between digital palpation and perineometry was tested by the Spearman correlation test. Mean and 95%CI were used to describe the values of the perineometer that correspond to the values of the digital palpation scale. The significance level was set at 5%.

Results

Eighty three men (mean age = 63,4 years) with UI after radical prostatectomy were evaluated, at about 8 days after urinary catheter removal. On the digital scale, the majority of participants (43,4%) presented anal pressure = 3, followed by 2 (22,9%) and 4 (22,9%) (Table 1). Considering all participants, the mean value registered by the perineometer was 101,31 cmH2O (SD = 66,04), ranging from de 0 to 408 cmH2O; the median was at 89 cmH2O. There was a positive correlation between digital palpation and perineometry measurements (r=0,673; p=0,000). The distribution of the digital palpation and perineometer' scores, and the respective correspondence values between these two scales are presented in Table 1.

Interpretation of results

The majority of participants presented a good (digital scale=3) to excellent (digital scale=5) anal pressure when contracting PFM, with mean perineometer values ranging from 94.2 to 235.6 cmH2O. To the best of our knowledge this is the first time that data regarding the anal pressure measured by ordinal and intervalar scales in men with urinary incontinence is presented. These data represent the capacity of contraction and the strength of the PFM respectively. Data from other studies will contribute to the understanding of PFM function in men with UI. The good correlation between digital palpation and perineometry favors the exchange of information between these scales in research and clinical practice. The description of the intervals of values of the perineometry that correspond to digital palpation scores will serve as a reference to the exchange of information.

Concluding message

The data presented offer reference values for anal pressure in man using digital palpation and perineometry. Also, the good correlation between these two scales indicates that digital palpation can be used in clinical practice, in substitution of the perineometry, when the evaluation is carried out by an experienced professional in the evaluation of the PFM. The correspondence between the two scales presented in this study can improve the communication between practice and research.

Table 1. Distribution of digital scale and perineometer values and the correspondence between them.

		Perineometer (cmH2O)					
Digital Scale	**n**	**Mean**			**95%CI**	**Min.**	**Max.**
0	2	5,0	[0	-	10]	0,0	10,0
1	1	29,4	-			29,4	29,4
2	19	51,8	[39,2	-	65,1]	10,6	118,0
3	36	94,2	[81,7	-	106,7]	7,0	196,2
4	19	135,8	[118,1	-	156,2]	79,0	240,0
5	6	235,6	[173,5	-	318,5]	152,0	408,0

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