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# ABDOMINAL FORCE OF A LOOPED SLING SUSTAINED FROM COUGH IN AN ANTI-INCONTINENCE SUBURETHRAL SLING

Hypothesis / aims of study

The force of the abdominal wall during cough might affect on the urethra through a non-adherent sling ligature. We conducted a study which could measure the dynamitic force of abdominal wall quantitatively induced by cough during a suburethral sling operation to elucidates the sling sustained the physiological force from abdominal wall.

Study design, materials and methods

A total 42 patients, 39-82 years old were recruited from Aug. 2003 to Jul. 2004. An adjustable table frame was designed to minimize the bias from measurement. The effect of abdominal force on sling was measured by a digital tensiometer under local anesthesia. Sling ligatures were weaved through the mesh instead of helical suture at both ends to get a better detection. The correlations between the abdominal force and other related independent factors were analysis with regression analysis.

Results

The mean of abdominal force during cough was 4.25 ±0.88 Kilogram (2.60-5.92). Positive correlations was revealed between the force of abdominal wall and the intra-abdominal pressure (r= 0.193, p=0.005). Negative correlations were revealed between the force of abdominal wall and independent factors, such as age (r= -0.411, p=0.001), body mass index (r= -0.316, p=0.001), and the mobility of urethral inclination (r=-0.138. p=0.020).

Interpretation of results

The non-absorbable monofilament polypropylene ligature we used has lesser chance to adhere the surrounding tissue than that of traditional mesh tape. The force of abdominal wall could be transmitted to the urethra and compress it automatically while patients coughing or straining.

Concluding message

The force that created from the abdominal wall during cough sustained the suburethral sling and subsequently caused urethral compression, which might improve the anti-incontinence surgery, especially for women with intrinsic sphincter deficiency. However, it might result in outlet obstruction and difficult voiding. To develop a new surgical technique or instrument, the effect of force from the abdominal wall should be always considered. It is worthy of further investigation.

References

1. Pereyra, A.J., Lebherz, T.B., Growdon, W.A., Powers, J.A.: Pubourethral supports in perspective: modified Pereyra procedure for urinary incontinence. Obstet Gynecol, 59: 643, 1982
2. DeLancey, J.O.L.: Structural support of the urethra as it relates to stress urinary incontinence: the hammock hypothesis. Am J Obstet Gynecol, 170: 1713, 1994
3. Bemelmans, B.L.H., Chapple, C.R.: Are slings now the gold standard treatment for the management of female urinary stress incontinence and if so which technique? Current Opinion in Urology, 13: 301, 2003

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| ***Is this a clinical trial?*** | **Yes** |
| ***Is this study registered in a public clinical trials registry?*** | **No** |
| ***Is this a Randomised Controlled Trial (RCT)?*** | **No** |
| ***What were the subjects in the study?*** | **HUMAN** |
| ***Was this study approved by an ethics committee?*** | **Yes** |
| ***Specify Name of Ethics Committee*** | **Institutional Review Board of the Veterans General Hospital-Taipei** |
| ***Was the Declaration of Helsinki followed?*** | **Yes** |
| ***Was informed consent obtained from the patients?*** | **Yes** |