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CURE OUTCOMES AND FOLLOW-UP IN THE BOLOGNA PROCEDURE: A RETROSPECTIVE STUDY

Hypothesis / aims of study

To evaluate the cure outcomes of a twenty months follow-up in patients submitted to the Bologna procedure for the treatment of stress urinary incontinence in association with anterior vaginal wall prolapse.

Study design, materials and methods

An observational retrospective study of twenty six women, aged between 50 and 77 years, who were submitted to the Bologna procedure. The patients had clinical diagnosis of anterior vaginal wall prolapse, stage II or more, and stress urinary incontinence, with urodynamic evaluation.

In the study, patients underwent vaginal hysterectomy, repair of all pelvic organ prolapses plus the Bologna procedure. The surgical technique used for the Bologna procedure was that first described by Umberto Bologna, in 1974.

The selection of patients for procedure was based on subjective symptoms and objective signs of prolapse and incontinence, and urodynamic evaluation. All the patients were submitted to pre-operative urodynamic evaluation which included filling cystometry and pressure flow studies.

Analysis was made to the intra-operative and post-operative complications.

The patients had a twenty-month mean follow-up period.

In the last visit the patients were asked to answer a Quality of Live Questionnaire (The Short Quality of Life Questionnaire of ICS), which intended to evaluate the first primary outcome: the subjective cure rate. In the same visit, the patients were also submitted to PAD testing (1h provocative test), which aimed to evaluate the second primary outcome: the objective cure rate.

We considered that subjective cure was achieved when the score of the Quality of Live Questionnaire was superior to 95%. When the score was between 85 and 95% it was assumed a subjective improvement. The objective cure was stated when PAD testing was negative, i.e. the weight gain was inferior to 2gr.

Results

The mean age of the twenty-six (26) patients at the time of surgery was 70,34 years (SD 14; range 50-77).

The mean parity index was 2,6 vaginal deliveries (range 0-8) and 98% of the patients were in menopause at the time of Bologna procedure.

The pre-operative diagnosis were: 27% had anterior vaginal wall prolapse, stage II to IV, with masqued urinary incontinence; 65% had anterior vaginal wall prolapse, stage II to IV, with stress urinary incontinence; and 8% had anterior vaginal wall prolapse, stage II to IV, with mixed urinary incontinence.

The mean duration of the incontinence was 2,7 years (SD 1,3; range 1-10 years). Of all patients, only 4% made pre-operative lower urinary tract rehabilitation with pelvic floor training and biofeedback techniques.

The Bologna procedure was associated with vaginal hysterectomy in all cases. There were other associated surgeries: 23% had McCall culdoplasty, 15,3% had posterior repair and 7,7% had both.

The anaesthesia was regional (epidural or sequential) in 92% of the cases and general in 8%.

The intra-operative complications were one severe haemorrhage with packed red blood cells transfusion and one bladder perforation.

In the early post-operative period (first 24h) there were six cases of acute retention of urine (23%), all with spontaneous resolution, and two cases of de novo urge urinary incontinence.

The late post-operative complications (>24h) were two cases of de novo urge urinary incontinence, two urinary tract infections, one abdominal wall abscess, two secondary enteroceles (8%) and one vaginal retraction ring. The patients with urge urinary incontinence were treated with trospium chloride.

The mean hospital stay was 5,8 days (SD 1,6; range 4-6).
The mean duration of the follow-up was twenty months.
In the Quality of Live Questionnaire for evaluation of the subjective cure, 57,1% of the women considered themselves cured and 28,5% were improved.
On the other hand, the evaluation of objective cure in the PAD testing revealed that 87,1% of the patients could be assumed effectively cured.

Interpretation of results

According to most authors, the success rate of Bologna procedure varies between 80-95%.
In our study we had a subjective cure rate of 57,1% and an objective cure rate, with PAD testing, of 87,1%. This means that some women with negative PAD test considered themselves just improved. However, we should keep in mind that we did just a provocative PAD test of 1h.
The most frequent post-operative complications were acute urinary retention and de novo urge urinary incontinence, as it is in the majority of surgical techniques for the stress urinary incontinence. The incidence of secondary enterocele (8%) was relatively low, which can perhaps be explained by the performing of McCall culdoplasty in a significant number (25%) of the patients.

Concluding message

The Bologna procedure appears as a surgical alternative for treatment of stress urinary incontinence when it is associated to a significant anterior vaginal wall defect.
The major advantage of this technique is the use of autologous material (vaginal flaps) in the urethral support and, thus, it has no risk of rejection. Usually there is a low morbidity and the most common complication is acute post-operative urinary retention.
This procedure is frequently done in older patients, in the postmenopausal period, which can explain worst results, as there is an inadequate vaginal tropism impairing the effect of vaginal flaps.