577

Marambio A[1]
1. *Hospital Clinico Universidad de Chile*

CHANGES IN COLLAGEN CONTENT BETWEEN DIFFERENT STAGES OF ANTERIOR VAGINAL WALL PROLAPSE

Hypothesis / aims of study

Genital prolapse is a very common disease whose exact prevalence is unknown. Its etiology is also discussed, describing only risk factors. The anterior vaginal wall prolapse is most common in different types of defects. Several studies describe that alterations in the amount of collagen type I and III would be present in these patients, however so far not been able to make it clear if there is an increase or decrease in the amount of these proteins as the disease progresses. Our hypothesis is that patients with anterior vaginal wall prolapse have a reduced content of collagen type I and III in connective tissue lining the vagina, which would be proportional to the stage of prolapse diagnosed clinically according to the POP-Q.

Study design, materials and methods

We performed a prospective study in patients with anterior vaginal wall prolapse who were operated in our Female Pelvic Floor Unit at Hospital Clínico Universidad de Chile from September 2007 to September 2009. Patients operated by other diseases constituted our group stage 0. At the time of inclusion in our study there was a history, physical examination and compiled the most relevant precedents in a specially designed form. At the time of surgery, a biopsy was taken from the anterior vaginal wall at the point Ba. The sample was subjected to inmunowestern blot analysis for collagen types I and III. All the patients had signed informed consent before surgery. Furthermore, the study was approved by the ethics committee of our hospital before the start. We excluded patients with previous history of pelvic surgeries, pelvic inflammatory disease, cancer, radiotherapy and neuromuscular or connective tissue diseases. The statistical tests used were Student t test, chi-square test, ANOVA test and Bonferroni multiple comparison.

Results

We enrolled 118 patients who met the inclusion / exclusion criteria. Sixteen patients corresponded to stage 0, 35 to stage 1, 34 stage 2, 32 stage 3 and 1 patient was stage 4. The average age for the entire group was 54.1 ± 11.2 years (29-73), with a significant trend to an older age in the group of patients with prolapse (47 vs. 55, $p = 0,006$) as also correlated with stage (47 years stage 0, 48,1 stage 1, 55,6 stage 2, 62 stage 3 and 69 years the patient with stage 4; ANOVA $F_{4,113} = 11,93$, $p < 0,005$). Similarly the number of pregnancies increased depending on stage (2,5 pregnancies for stage 0, 3,2 for stage 1, 3,7 for stage 2, 4,1 for stage 3 and 7 for 4; ANOVA $F_{4,113} = 3,44$, $p = 0,01$). The presence of stress urinary incontinence was significantly associated with the presence of prolapse ($p <0,005$). There were no significant differences in smoking habits between patients with and without prolapse ($p = 0,52$) or in nutritional status between groups (ANOVA $F_{4,106} = 1,24$, $p = 0,29$). The molecular study found no significant differences between the levels of collagen I ($p = 0,59$), collagen III ($p = 0,77$) and ratio collagen I / collagen III ($p = 0,82$) between different stages, or when comparing patients without prolapse (stage 0) with the total group of patients with prolapse.

Interpretation of results

Genital prolapse is a very common condition that is associated with several factors, noting the age and parity (an increased age and parity are associated with having a greater degree of prolapse). In addition is frequently coexisting with stress urinary incontinence (64,4%). These results suggest that the presence of anterior vaginal wall prolapse would not be associated with changes in the amount of collagen I or III, both when compared with patients without prolapse and among different stages of the disease.

Concluding message

Still is not clear what changes occur histologically in patients with prolapse, the literature has been discordant about the changes in the levels of both collagen I and III, but apparently other mechanisms would be responsible either qualitative collagen changes (tensile strength, disposition, etc.) or mediated by other factors such as metalloproteinases or other matrix proteins.

Specify source of funding or grant	**None**
Is this a clinical trial?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**Yes**
Specify Name of Ethics Committee	**Ethic committee of the Hospital Clínico Universidad de Chile**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**