OBJECTIVE: To evaluate the effect of soy isoflavones and estrogen therapy on the urethra and bladder of castrated rats. METHODS: Forty female albino rats were studied. The animals were castrated 32 days before the gavage drug administration. They were divided in four groups: Group A - control; Group B: 100 mg/kg/day of soy concentrated extract, containing 46 mg/kg/day total isoflavonas; Group C: conjugated equine estrogens, 50 ?g/Kg/day; Group D conjugated equine estrogens, 50 ?g/Kg/day and concentrated extract of soy, 100 mg/kg/day containing isoflavones, 46 mg/kg/day. The groups B, C and D received treatment for 32 days. All animals were sacrificed after 32 days. The bladder and urethra wall were extracted for histological analysis. We calculated the wall thicknesses at two different cuts of the same blade. The significance of results was calculated using the Student's t-test (p < 0.05).

RESULTS: Bladder: Group A (control) and Group B (Isoflavone) did not have any changes at the end of treatment. When we compared Group C to Group D, there was no significant difference, as well Group C to Group B. The bladder thickness in group C and D showed significant difference when compared to control Group. Urethra: Group A (control) and Group B (Isoflavone) did not have any changes at the end of treatment. When we compared Group D to Group A and Group D to Group C there were significant difference on urethra thickness. CONCLUSION: Oral concentrated extract of soy isoflavone treatment did not have positive trophic effect on the urethra and bladder thickness of female castrated rats. When we associated soy isoflavone to conjugated equine estrogens we observed trophic effect in both bladder and urethra thickness, but the urethra thickness was higher with conjugated equine estrogens associated with isoflavone when compared to conjugated equine estrogens alone.