

DOES GLYCOSAMINOGLYCANS REPLACEMENT THERAPY REDUCE RISK OF RECURRENT URINARY TRACT INFECTIONS IN WOMEN? A SYSTEMIC LITERATURE REVIEW AND META-ANALYSIS

Hypothesis / aims of study

To systemically review the published literatures and pool the data to evaluate the effectiveness of glycosaminoglycans (GAG) replacement therapy in preventing women's recurrent urinary tract infections (rUTI)

Study design, materials and methods

A systemic research of PubMed® was performed to search all comparative and randomized controlled trials that compared the efficacy of GAG replacement therapy with a control group (placebo/antibiotics/standard therapy) in preventing women's rUTI. The evaluated outcomes included risk of rUTI, rUTI episodes per patient year, time to UTI recurrence, Pelvic Pain and Urgency/Frequency (PUF) and the Quality of Life (Short-form 36 Questionnaire, SF-36). The Cochrane Collaboration Review Manager software (RevMan®, version 5.3) was used for statistical analysis.

Results

Finally, there were 6 trials (2 randomized control and 4 retrospective comparative trials) met the inclusion criteria and were enrolled into our meta-analysis. Total of 677 patients were included in the analysis. There were 5 studies adopted intravesical instillations and 1 used oral-administered hyaluronic acid. The synthesized results revealed that GAG replacement therapy could significantly reduce risk of rUTI (OR:0.42, 95CI:0.20-0.88), recurrent UTI episodes (WMD: -1.45, 95CI:-1.67 - -1.23), reduce UTI associated symptoms on PUF score (WMD: -6.70, 95 CI: -10.36 - -3.05) and non-significant improvement in quality of life on SF-36 total score and prolongation of time to rUTI.

Interpretation of results

The current meta-analysis revealed that GAG replacement therapy could significantly lower the risk of getting rUTI, reduce number of rUTI episodes per patient-year, and ameliorate rUTI associated discomfort and symptoms. Although no significant improvement in QoL and in reducing mean time to rUTI was observed which may be due to small number of included patients and heterogeneity in the control group.

Concluding message

The current meta-analysis revealed that GAG replacement therapy could significantly preventing rUTI in women. Further studies should focus on the durability of protective effect of hyaluronic acid and the optimal protocol for dosage and administration route for GAG replacement therapy.

References

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Disclosures

Funding: nothing to disclose **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** meta-analysis **Helsinki:** Yes **Informed Consent:** No