

Effectiveness Of Cranberry Supplement In Preventing and Treating Acute UTI's Following SCI - A Review

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OBJECTIVES: The objective of this poster is to review our animal study on the effectiveness of cranberry supplement on urinary tract infection (UTI) treatment and our human study evaluating the effectiveness of cranberry on UTI prevention and in neurogenic bladders following spinal cord injury (SCI).

STUDY DESIGN: Treatment study -prospective randomized controlled animal study
Prevention study - prospective double blinded placebo controlled crossover study.

METHODS: Treatment study – Sprague Dawley SCI rats with documented UTI's were given amoxicillin, or cranberry for 7 days. A UTI was defined as having bacteria and pyuria. A UA C&S was done three days post treatment. Treatment was considered successful if there was complete resolution in the elevated WBC's. Data analysis -The Barnard's Unconditional Test of Superiority Using Difference Of Two Binomial Proportions Prevention study - Individuals with neurogenic bladders due to SCI were recruited and randomly assigned to standardized 380 mg cranberry tablets or placebo 3 times a day for 4 weeks. After 4 weeks and an additional one week "washout period," subjects were crossed over to the other group. Subjects were seen weekly in which a urine analysis was obtained. A UTI was defined as, significant bacterial colony counts in the urine and elevated WBC's. ($WBC \geq 10$ /high power field (hpf)) in centrifuged urine. Data analysis - Ezzet and Whitehead's random effect approach.

RESULTS: Treatment study - 60% resolution of UTI's using amoxicillin, and no resolution using cranberry. The Barnard's Unconditional Test of Superiority Using Difference Of Two Binomial Proportions showed a trend suggesting amoxicillin was superior to cranberry ($p=0.07$). Prevention study - there was no statistically significant treatment (favorable) effect for cranberry beyond placebo when evaluating the 2 groups for bacteria, WBC, or WBC and bacteria in combination.

CONCLUSIONS: Cranberry supplement does not appear to be effective at treatment or prevention of UTI's in those with neurogenic bladders.

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