

**THE EFFECT OF PROPHYLACTIC ADMINISTRATION OF CRANBERRY
EXTRACT (SWISS CRAN-MAX™ 7500mg)
ON THE OCCURRENCE OF RECURRING INFECTIONS OF THE URINARY TRACT**

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1. INTRODUCTION

SWISS CRAN MAX™ 7500mg (*Vaccinium macrocarpon*) is a standardized natural extract, equivalent to 7500mg of fresh Canadian cranberries. It is produced from pure cranberry fibre and concentrated cranberry juice.

The first historical reports of the medical use of cranberries originate in the 17th century from European settlers in North America who noted their healing utilization from native Indians. Later, cranberries were used in various forms on ships crossing the Atlantic Ocean as a prevention of scurvy. Their excellent effect on urinary infections was accidentally discovered at that time. The first serious studies of the therapeutic effects of cranberries (USA) date back to the twenties of the 20th century.

(diagram showing the structure of ellagic acid)

The exact operation mechanism of the effects is not known. Nevertheless, it is expected that there is a lowering of the ability of bacteria to adhere to the cell membrane of the bladder. The cranberry extract also functions as a strong antioxidant. A significant role in the operation mechanism is played by ellagic acid.

2. METHODOLOGY

The study objective was the monitoring of the effects of prophylactic administration of cranberry extract on the occurrence of recurring infections of the urinary tract.

		2x)	
Side effects of treatment by antibiotics and chemotherapeutics per patient during the 6 months of observation: (total in set: diarrhea 6x, colpitudum 4x, digestive difficulties 2x, skin reaction 2x)	0.68 (0-3)	Side effects of treatment:	none

Graph showing the results for groups A and B:

legend: Control Set
 CRAN-MAX Group

x-axis labels: Clinical symptoms of urinary tract infection

Urine (chemical + sediment)

KBU

NU

Subjective evaluation of the treatment by the patients themselves:

significant improvement	37% (9 patients)
improvement	56% (14 patients)
no changes	7% (2 patients)
feeling worse	0%

4. CONCLUSIONS

Despite the relatively small number of patients, it was observed that the prophylactic administration of the preparation CRAN-MAX™ 7500mg resulted in a significant reduction of the number of clinical manifestations of urinary tract infections, as well as laboratory findings of the monitored individuals, i.e. approximately 6x. A considerably good effect was observed on patients with a neurogenous bladder.

OBSERVATION SET: During the time period from March 1999 to October 1999, we administered 1 capsule of the preparation SWISS CRAN-MAX™ 7500mg per day to 25 patients (24 women and 1 man), suffering from an anamnesis of recurring infections of the urinary tract (3 times or more during the past year) for a time period of 6 months. Two patients had a neurogenous bladder with torpid infections of the urinary tract. The observation set consisted of patients without current symptoms of a urinary tract infection. The patients were monitored every two months after the initial examination. Subjective symptoms, such as the urinary chemistry and sediments, urinary bacteria counts and the appearance of side effects, were monitored. The average age of the patients was 43.2 years (16 - 75).

The control set was formed by 24 female patients with the same initial criteria, i.e. infection of the urinary tract at least 3 times during the past year and no current urinary tract infection symptoms at the time of insertion into the study. The patients were monitored only during clinical urinary tract infection symptoms for urinary chemistry and sediments and urinary bacteria counts. They were treated using the standard methods, i.e. short-term cycles of antibiotics or chemotherapeutics. The side effects of the prescribed drugs were also monitored. The average age was 41.6 years (16-64).

3. RESULTS

A. Control Set		B. Observation Set SWISS CRAN-MAX™ 7500mg	
The average number of clinical manifestations of a urinary tract infection per patient during the 6 months of observation:	2.3 (1-4)	The average number of clinical manifestations of a urinary tract infection per patient during the 6 months of observation:	0.33 (0-2)
Average observations in the urine sediment (above 5 leukocytes in ZP) per patient:	2.3 (1-4)	Average observations in the urine sediment (above 5 leukocytes in ZP) per patient:	0.45 (0-2)
A positive observation of quantifiable bacteria (10 and more / ml or urine) per patient during the 6 months of observation: (total in set: E. Coli 36x, Enterococcus 8x, Proteus mir. 6x, Kleb. Pneu 5x)	2.1 (1-3)	A positive observation of quantifiable bacteria (10 and more / ml or urine) per patient during the 6 months of observation: (total in set: E. Coli 6x, Kleb. Pneu 5x, Acinetobacteria 2x, Enterobacteria 2x, Kleb. Oxytoc.	0.38 (0-2)

An important advantage in comparison with the treatment using antibiotics and chemotherapeutics is the absence of treatment side effects and the possibility of utilization by e.g. pregnant female patients. In addition to the sub-inhibition doses of antibiotics, chemotherapeutics and immunomodulatory preparations, this natural preparation represents additional possibilities in the prophylaxis of recurring urinary tract infections.

- Literature:
1. Avom MD: Reduction of bacteriuria and pyuria after ingestion of cranberry juice, JAM 1994 - vol. 271, No. 751-751.
 2. Kinney AB: Effect of cranberry juice of urinary pm. Am J. Med. 1967, 3, 27-33.
 3. Moen DM: Observations on the effectiveness of cranberry juice in urinary infection. Am. J. Med. 1982, 282-283.
 4. Sobota AE: Inhibition of bacterial adherence by cranberry juice. Potential use for treatment of urinary tract infections. J. Urol. 1984, 131, 1013-6.