快速評讀 [臨床隨機試驗 RCT]

文獻:

Cranberries vs antibiotics to prevent urinary tract infections: a randomized double-blind noninferiority trial in premenopausal women.

Beerepoot MA, ter Riet G, Nys S, van der Wal WM, de Borgie CA, de Reijke TM, Prins JM, Koeijers J, Verbon A, Stobberingh E, Geerlings SE.

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步驟 1：研究探討的問題為何？

研究族群 / 問題 (Population/ Problem)：Premenopausal women with recurrent UTIs.

介入措施 (Intervention)：Cranberry capsules 500 mg twice daily.

比較 (Comparison)：Trimethoprim-sulfamethoxazole (TMP-SMX), 480 mg once daily.

結果 (Outcomes)：The mean number of symptomatic UTIs over 12 months.
The proportion of patients with at least 1 symptomatic UTI.
The median time to first UTI.
Development of antibiotic resistance in indigenous *Escherichia coli*.

步驟 2：研究的品質有多好(內在效度)？

招募(Recruitment) - 受試者是否具有代表性？

評讀結果：■是 □否 □不清楚 說明：【p.1271】

1. Premenopausal women, 18 years of age or older, with a medical history of at least 3 symptomatic UTIs in the year preceding enrollment were eligible.
2. Patients were recruited through advertisement in women’ s magazines and in journals, through primary care physicians’ referral, and from secondary or tertiary hospitals all over the Netherlands from January 1, 2005, through August 31, 2007.
3. Exclusion criteria were symptoms of a UTI at inclusion, use of antibiotics or cranberries in the previous 2 weeks, relevant interactions with existing medication or contraindications for TMP-SMX (eg, known allergy) or cranberries (oral anticoagu-lants10 or renal stones11), pregnancy (or desire for pregnancy), breastfeeding, and a history of renal transplantation.
4. The study protocol was approved by the medical ethics committees of all 10 participating centers, and all participants gave written informed consent before inclusion.

分派(Allocation) - 分派方式是否隨機且具隱匿性... ?

評讀結果：■是 □否 □不清楚 說明：【p.1271】

1. The coordinating center (Academic Medical Center, Amsterdam, the Netherlands) prepared drug randomization lists for each study site in advance.
2. Women were randomized to 12 months' ingestion of either (1) 1 tablet with 480 mg TMP-SMX at night and 1 placebo capsule twice daily or (2) 1 capsule with 500 mg cranberry extract twice daily and 1 placebo tablet at night.
3. Concealed randomization was ensured using computer-aided block randomization (block size was kept secret
4. Masking of patients and investigators was achieved by double-dummy dosing. Placebo and active doses of the tablets and of the capsules were identical in appearance and taste (provided they were swallowed whole as instructed) and were sealed in identical lightproof jars with moisture traps in the lid.

... 每個組別，在研究開始時的情況是否相同？

評讀結果：■是 □否 □不清楚 說明：【p.1271】

At baseline, demographic variables and clinical characteristics were collected.

維持(Maintenance) - 各組是否給予相同的治療？

評讀結果：□是 □否 ■不清楚 說明：【p.1271】

1. During the study period of 12 months, using of prophylaxis in both group.
2. Women were randomized to 12 months' ingestion of either :

(1) TMP-SMX 480 mg 1# HS.
placebo capsule 1# Bid .

(2) Cranberry extract 500 mg 1# Bid .
placebo tablet 1# HS.

... 是否有足夠的追蹤(Follow up)？

評讀結果：□是 ■否 □不清楚 說明：【p.1272】

Asigned to receive TMP-SMX prophylaxis, 57 Had follow-up at month 12, loss 48%.
Assigned to receive cranberry prophylaxis, 53 Had follow-up at month 12, loss 52%.

評估(Measurement) - 受試者與評估者是否對治療方式及(或)評估目的維持盲法(blind)？

評讀結果：■是 □否 □不清楚 說明：【p.1270】

This study was a double-blind, double-dummy noninferiority trial.

步驟 3：研究結果及討論

研究結果

1. In a randomized double-blind noninferiority trial, TMP SMX was more effective than cranberry capsules for the prevention of UTIs in premenopausal women. Cranberries

and TMP-SMX were equally well tolerated.

2. Particularly strong points of this study include the relatively long intervention period of 12 months and the inclusion of a washout period after the discontinuation of the study medication.

討論(本研究是否可用於臨床?)

1.本文的研究結果是否能用於臨床上?

■同意(0)　■懷疑(12)　■不同意(3)

(1) 本院診斷 UTI 的住院病人，通常抗生素約使用10~14天，不會用到一年。另外，本文研究對象排除已診斷 UTI 的個案，病人族群不同，因此無法採用本研究結果於臨床病人。

(2) 本研究中是否有 UTI 之結果指標，採個案自訴式症狀(頻尿、急尿)，客觀性待議。

(3) 針對蔓越莓汁中可預防 UTI 的成分 (PACs) ，本文使用的劑量為 9.1mg/g，是否達有效劑量，並無理論基礎，查閱相關文獻，本文所使用的劑量較低，是否因此影響效果，需進一步探討。

(4) 本文其中一組研究措施為攝取抗生素，且時間長達12個月，民眾接受度恐怕不高(對治療措施的遵從性)。

2.針對住院病人，是否該繼續衛教食用蔓越莓預防泌尿道感染?

本院對於預防泌尿道感染之衛教，常規會指導民眾應多攝取小紅莓/蔓越莓，但Cochrane (2012) Cranberries for preventing urinary tract infections (Review) 之系統性文獻回顧，結果顯示：是否食用蔓越莓對預防泌尿道感染並無顯著的益處，因此，是否改變現行衛教方式，可進一步評讀Cochrane系統性文獻回顧之文章，以做出最合適的建議。

參考資料：

Cochrane (2012) Cranberries for preventing urinary tract infections (Review)

Authors' conclusions:

1. Prior to the current update it appeared there was some evidence that cranberry juice may decrease the number of symptomatic UTIs over a 12 month period, particularly for women with recurrent UTIs. The addition of 14 further studies suggests that cranberry juice is less effective than previously indicated.
2. Although some of small studies demonstrated a small benefit for women with recurrent UTIs, there were no statistically significant differences when the results of a much larger study were included.
3. Given the large number of dropouts/withdrawals from studies (mainly attributed to the acceptability of consuming cranberry products particularly juice, over long periods), and the evidence that the benefit for preventing UTI is small, cranberry juice cannot currently be recommended for the prevention of UTIs.
4. Other preparations (such as powders) need to be quantified using standardised methods to ensure the potency, and contain enough of the active ingredient, before being evaluated in clinical studies or recommended for use.