

teracts with the other cytokines that modify the action of G-CSF. Our data may help explain the complicated cytokines network (including the association between calcium and G-CSF) in tumors that simultaneously produce PTHrP and G-CSF.

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## Notes

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## Re: Risk of Urinary Tract Cancers Following Kidney or Ureter Stones

A Swedish record-linkage study (1), based on a cohort of 61 114 patients hospitalized for kidney or ureter stones followed for up to 18 years, found a standardized incidence ratio of bladder cancer of 1.4 based on 319 cases. The association was stronger in women, but information was not available to allow for possible confounding factors. Evidence from case-control studies is still

open to discussion. The odds ratios (ORs) were 2.2 in males in an earlier U.S. study (2), around 1.5 in a large multicentric U.S. study (3), and 1.0 in a Danish study (4). Three additional case-control studies (5–7) found ORs between 1.2 and 1.4.

Urinary tract stones might induce chronic irritation that may lead to proliferative urothelial changes, or mechanical effect of stones on the epithelium might increase absorption and/or exposure to carcinogens in the urine, or they may be markers of chronic infections or conditions, which may, in turn, enhance bladder cancer risk. However, it remains open to discussion whether the moderate relationship observed in case-control studies reflects a causal association rather than a more accurate recall of urinary symptoms by bladder cancer cases than controls.

Therefore, we updated our analysis on the relationship between urinary tract stones and risk of bladder cancer in a case-control study carried out in Northern Italy between 1985 and 1992 (6). Cases were 431 subjects (361 men and 70 women; median age, 63 years [range, 27–79 years]) with incident histologically confirmed bladder cancer. Controls were 813 subjects (638 men and 175 women; median age, 61 years [range, 23–79 years]) admitted to the same hospital for various acute conditions not related to smoking or other known or likely risk factors for bladder cancer. A total of 21 (5%) case patients and 40 (5%) of control subjects reported a history of urinary tract stones (Table 1). The multivariate OR of bladder cancer was 1.0. Separate analysis in women found a nonsignificant OR of 2.2.

Thus, this study confirms that no major association emerged between urinary tract stones and bladder cancer. If any

association exists, this may be stronger in women.

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## Notes

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**Table 1.** Distribution of 431 cases of bladder cancer and 813 controls and corresponding odds ratios with 95% confidence intervals, according to history of urinary tract stones (Milan, 1985–1992)

History of stones	Bladder cancer		Control subjects		Odds ratios (95% confidence intervals)*		
	Men	Women	Men	Women	Men	Women	All
No	343	67	602	171	1†	1†	1†
Yes	18	3	36	4	1.0 (0.5–1.8)	2.2 (0.4–10.8)	1.0 (0.6–1.8)

\*Estimates from multiple logistic regression equations, including terms for age, education, and smoking habit.

†Reference category.