

# Arsenic in drinking water and urinary tract cancers: a systematic review update

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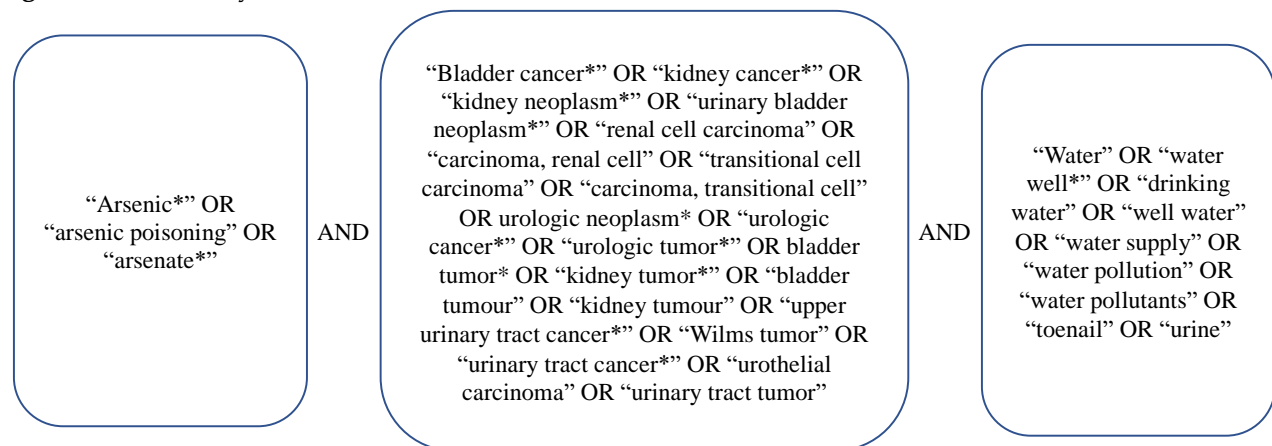
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## Supplementary Materials

**Figure S1.** Search keywords



**Table S1.** Search strategy through Ovid MEDLINE ® and Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Daily and Versions® January 2013 to February 8, 2023.

Line #	Keywords
1	exp Arsenic/
2	exp Arsenic Poisoning/
3	(arsenic* or arsenate*).ti,ab,kf.
4	1 or 2 or 3
5	exp Kidney Neoplasms/ or exp Urinary Bladder Neoplasms/ or exp Carcinoma, Renal Cell/
6	exp Carcinoma, Transitional Cell/ or exp Urologic Neoplasms/
7	exp Wilms Tumor/
8	(nephroblastoma or "Wilms tumor" or "Wilms' tumor" or "Wilms tumour" or "Wilms' tumour").ti,ab,kf.
9	5 or 6 or 7 or 8
10	exp Urinary Tract/ or exp Urinary Bladder/ or exp Kidney/

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11 (urothelial or UTUC or "transitional cell" or TCC or "renal cell" or RCC).ti,ab,kf.  
12 (renal or kidney or urinary or "urinary tract" or "upper urinary tract" or urologic or "urinary  
13 bladder").ti,ab,kf.  
14 10 or 11 or 12  
15 (cancer\* or carcinoma\* or nodule\* or tumor\* or tumour\* or neoplas\* or adenocarcinoma or sarcoma  
16 or lymphoma).ti,ab,kf.  
17 exp Neoplasms/ or exp Carcinoma/  
18 14 or 15  
19 13 and 16  
20 ((bladder or kidney or renal or urinary or "urinary tract" or "urinary bladder") adj5 (cancer\* or  
21 carcinoma\* or nodule\* or tumor\* or tumour\* or neoplas\* or adenocarcinoma or sarcoma or  
22 lymphoma)).ti,ab,kf.  
23 9 or 17 or 18  
24 exp Water/ or exp Water Wells/ or exp Drinking Water/ or exp Water Supply/ or exp Water  
25 Pollutants, Chemical/ or exp Water Pollution, Chemical/ or exp Water Quality/ or exp Fresh Water/ or  
26 exp Water Pollutants/ or exp Water Pollution/  
27 (water or "drinking water" or "water supply" or "water well\*" or "well water").ti,ab,kf.  
28 20 or 21  
29 exp Nails/  
30 toenail\*.ti,ab,kf.  
31 23 or 24  
32 exp Urine/  
33 urine.ti,ab,kf.  
34 26 or 27  
35 22 or 25 or 28  
36 4 and 19 and 29  
37 4 and 19  
38 4 and 16 and 29  
39 31 or 32  
40 limit 33 to yr="2013 -Current"

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**Table S2.** Search strategy through Ovid Embase ® January 2013 to February 8, 2023.

Line #	Keywords
1	exp arsenic/
2	exp arsenic poisoning/
3	(arsenic* or arsenate*).tw,kw.
4	1 or 2 or 3
5	exp kidney tumor/ or exp bladder tumor/ or exp renal cell carcinoma/
6	exp transitional cell carcinoma/ or exp urinary tract tumor/
7	exp nephroblastoma/
8	(nephroblastoma or "Wilms tumor" or "Wilms' tumor" or "Wilms tumour" or "Wilms' tumour").tw,kw.
9	5 or 6 or 7 or 8
10	exp urinary tract/ or exp bladder/ or exp kidney/
11	(urothelial or UTUC or "transitional cell" or TCC or "renal cell" or RCC).tw,kw.
12	(renal or kidney or urinary or "urinary tract" or "upper urinary tract" or urologic or "urinary bladder").tw,kw.
13	10 or 11 or 12
14	(cancer* or carcinoma* or nodule* or tumor* or tumour* or neoplas* or adenocarcinoma or sarcoma or lymphoma).tw,kw.
15	exp neoplasm/ or exp carcinoma/
16	14 or 15
17	13 and 16
18	((bladder or kidney or renal or urinary or "urinary tract" or "urinary bladder") adj5 (cancer* or carcinoma* or nodule* or tumor* or tumour* or neoplas* or adenocarcinoma or sarcoma or lymphoma)).tw,kw.
19	9 or 17 or 18
20	exp water/ or exp well water/ or exp drinking water/ or exp water supply/ or exp water pollutant/ or exp water pollution/ or exp water quality/ or exp fresh water/
21	(water or "drinking water" or "water supply" or "water well*" or "well water").tw,kw.
22	20 or 21
23	exp nail/
24	toenail*.tw,kw.
25	23 or 24
26	exp urine/
27	urine.tw,kw.
28	26 or 27
29	22 or 25 or 28
30	4 and 19 and 29
31	4 and 19
32	4 and 16 and 29
33	31 or 32

**Table S3.** Search strategy through the Web of Science Core Collection January 2013 to February 2023.

(ALL=(arsenic\*)) AND (ALL=(kidney OR urinary OR renal OR "urinary tract" OR "upper urinary tract" OR urologic\* OR "urinary bladder" OR bladder OR urothelial OR "transitional cell" OR "renal cell")) AND (ALL=(cancer\* OR carcinoma\* OR nodule\* OR tumor\* OR tumour\* OR neoplas\* OR adenocarcinoma OR sarcoma OR lymphoma))) AND (ALL=(water OR "drinking water" OR "water supply" OR "water well\*" OR "well water" OR urine OR toenail\*))

**Table S4.** Search strategy through the Scopus database January 2013 to February 2023.

PUBYEAR > 2012 ( TITLE-ABS-KEY ( arsenic\* ) ) AND ( TITLE-ABS-KEY ( kidney OR urinary OR renal OR "urinary tract" OR "upper urinary tract" OR urologic\* OR "urinary bladder" OR bladder OR urothelial OR "transitional cell" OR "renal cell" ) ) AND ( TITLE-ABS-KEY ( cancer\* OR carcinoma\* OR nodule\* OR tumor\* OR tumour\* OR neoplas\* OR adenocarcinoma OR sarcoma OR lymphoma ) ) AND ( TITLE-ABS-KEY ( water OR "drinking water" OR "water supply" OR "water well\*" OR "well water" OR urine OR toenail\* ) )

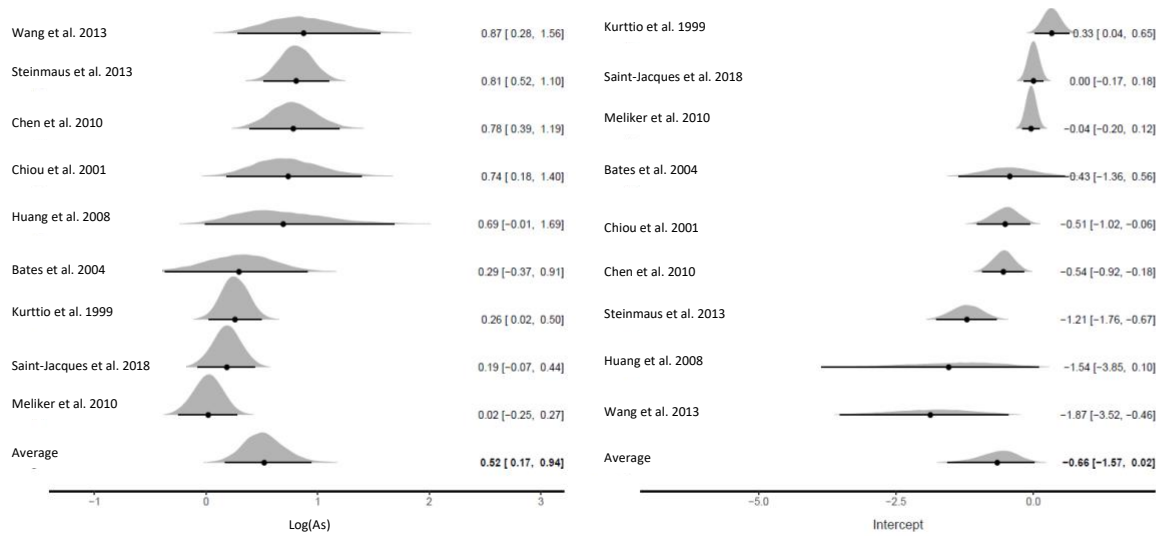
**Table S5.** Search strategy through the Google Scholar database January 2013 to February 2023.

Arsenic "kidney cancer" "bladder cancer" "urinary tract cancer" "drinking water"

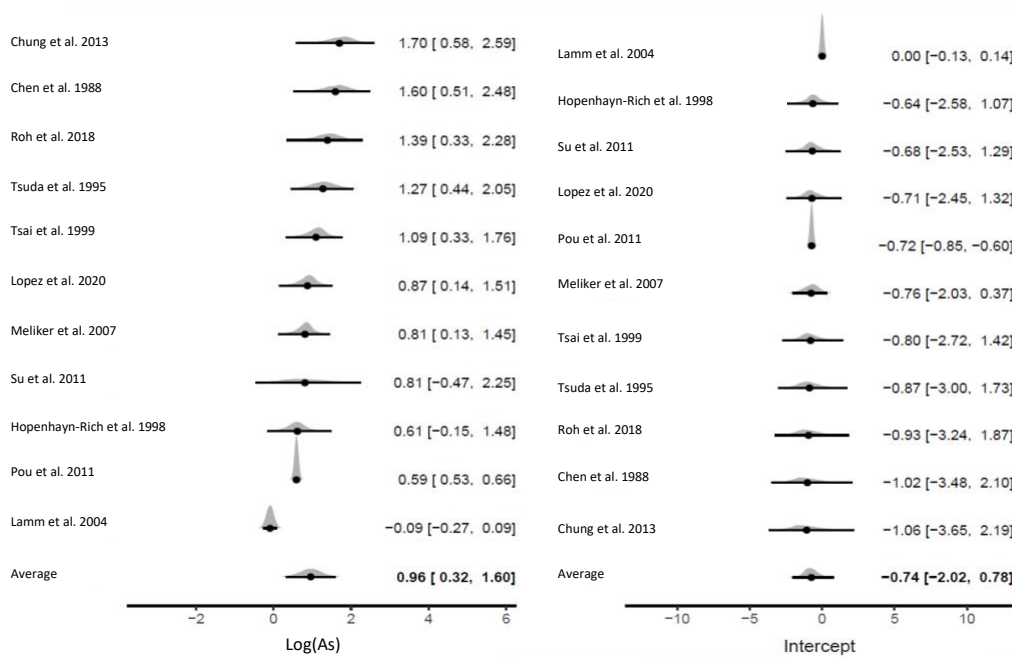
**Table S6.** Search strategies through grey literature bibliographic databases January 2013 to February 2023.

Database	Search strategy
ProQuest Agricultural & Environmental Science Collection	summary(arsenic*) AND summary((kidney OR urinary OR renal OR "urinary tract" OR "upper urinary tract" OR urologic* OR "urinary bladder" OR bladder OR urothelial OR "transitional cell" OR "renal cell") AND (cancer* OR carcinoma* OR nodule* OR tumor* OR tumour* OR neoplas* OR adenocarcinoma OR sarcoma OR lymphoma)) AND summary((water OR "drinking water" OR "water supply" OR "water well*" OR "well water" OR urine OR toenail*))
Europe Pre-print Database	(arsenic and (kidney cancer OR urinary bladder cancer) and drinking water) AND (FIRST_PDATE:[2013 TO 2023])
Open Access Theses and Dissertations	Arsenic AND cancer

**Figure S2.** Posterior distribution of slopes [log(As)] and intercepts assuming random slopes and intercepts, for bladder cancer incidence.



**Figure S3.** Posterior distribution of slopes [log(As)] and intercepts, assuming random slopes and intercepts, for standardized bladder cancer mortality.



**Figure S4.** Posterior distribution of slopes [log(As)] and intercepts, assuming random intercepts only, for kidney cancer incidence.

