Aim: Findings from epidemiologic studies concerning red and processed meat intake and bladder cancer risk remain conflicting. Thus, we conducted this meta-analysis to examine the associations of red and processed meat intake with bladder cancer.

Methods: Eligible studies published up to March 2014 were retrieved via both computer searches and review of references. Finally, we identified 14 studies on red meat (involving 9,084 cases) and 11 studies on processed meat (7,562 cases) involving up to 1,558,848 individuals. Random-effects models were used to estimate summary relative risk estimates (SRRE) based on high vs. low intake, and heterogeneity between study results was explored through stratified analyses on the basis of red/processed meat category, gender, study design and geographical region.

Results: Overall, the SRRE for all studies regarding red meat intake was 1.15 (95% CI: 0.97–1.36). Significant positive association was observed between processed meat consumption and bladder cancer (SRRE = 1.22; 95% CI: 1.04-1.43). Interestingly, increased risk of bladder cancer of 25% and 33% were observed for red meat and processed meat intake, respectively, in populations from the American continent.

Conclusions: In conclusion, our findings showed that there was an absence of an association between red meat intake and bladder cancer, but suggested that high consumption of processed meat probably correlated with rising risk of bladder cancer. In addition, positive relationships were observed regarding people’s intake of red and processed meat in the American continent. These findings need to be confirmed in future research.

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