

Table 2.1. Case-control studies of *S. haematobium* and urinary bladder cancer

Reference, study location and period	Characteristics of cases	Characteristics of controls	Detection method	Exposure categories	No. of exposed cases (%)	Odds ratio (95% CI)	Adjusted potential confounders	Comments
Mustacchi & Shimkin (1958); Tanta, Nile Delta, Egypt	55 hospitalized patients (48 men, 7 women), with urinary bladder cancer, ≥ 15 yrs	1417 subjects with other admissions to hospital, ≥ 15 yrs	Eggs in first urine sample Eggs in any urine sample and radiological or endoscopic methods		8 (14.5%)	2.1 ($P=0.04$)	Age, sex and urban or rural residence	
					27 (49.0%)	2.2 ($P<0.01$)		
Prates & Gillman (1959); Maputo, Mozambique	100 autopsied subjects with urinary bladder cancer (63 men, 37 women), >20 yrs	185 autopsied subjects without bladder cancer, >40 yrs	Eggs identified in histological section		33 (33%)	0.3 (0.2–0.5)	None	Dissimilar methods used to examine biopsy and autopsy specimens, causes of death of controls not described, no adjustment for differences in specific age or place of origin
Hinder & Schmaman (1969); Johannesburg, South Africa	79 autopsied people with histologically confirmed urinary bladder carcinoma (67 men, 12 women)	101 autopsied corpses, random group (57 men, 44 women), >15 years	Postmortem punch biopsy sample		27/79 (34.2%)	5.3 (2.3–12)	None	Causes of death not provided, no adjustment for differences in specific age or place of origin
Gelfand et al. (1967); Harare, Zimbabwe	33 hospitalized patients with histologically confirmed urinary bladder cancer, ≥ 20 yrs	33 matched patients of same age, sex, race on different hospital ward	Pelvic X-ray		15/33 (45.5%)	15 (2.0–114)	None	Diagnoses of disease in controls not described, no adjustment for differences in smoking habits or place of origin
			Rectal biopsy		17/31 (54.8%)	6.5 (1.5–29)		
El-Bolkainy et al. (1982); Dakahliya Governorate, Nile Delta, Egypt; 1976–1979	10 rural residents participating in a bladder screening programme, with histologically confirmed bladder cancer, 25–85 yrs	5871 rural residents participating in a bladder screening programme without tumours, ≥ 20 yrs	Occupation as farmer		10/10 (100%)		None	

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Elem & Purohit (1983); Lusaka, Zambia	50 malignant cadaver bladders (31 men, 18 women), 20–70 yrs	50 age- and sex-matched non-malignant cadaver bladders, mostly traumatic death	Digestion and centrifugation of bladder Pelvic X-ray		47/50 (94.0%) 19/50 (38.0%)	14 (4.6–43) 3.8 (1.4–10.0)	Age, sex	
Vizcaino et al. (1994); Bulawayo, Zimbabwe; 1963–77	412 cancer registry cases of urinary bladder cancer (300 men, 112 women)	2483 cancer registry cases with tumours (benign and malignant) with exclusion of cancers at three tobacco-related sites: oesophagus, larynx, and lung (2078 men, 405 women)	Clinical history of bilharzia or haematuria		Men: 101/300 (33.7%) Women: 39/112 (34.8%)	Men: 3.9 (2.9–5.2) Women: 5.7 (3.7–8.7)	Age, province, education, drinking and smoking	Exposure data available only for 61% of total number of bladder cancer cases, and only 50% of controls: possible ascertainment bias. Part of the data also reported in Skinner et al. (1993) and in Parkin et al. (1994).
Bedwani et al. (1998); Alexandria, Egypt; 1994–96	190 hospital-based patients (151 men, 39 women), age 21–74 yrs (median 59 yrs), with histologically confirmed invasive bladder cancer	187 hospital-based subjects (157 men, 30 women), age 20–74 yrs (median 51 yrs), with acute, non-neoplastic, non-urinary tract conditions	Clinical history of urinary schistosomiasis, including age at first diagnosis	<i>Age at first diagnosis</i> <15 yrs 15–24 yrs ≥25 yrs <i>Time since first diagnosis</i> <25 yrs 25–34 yrs ≥35 yrs	86/190 (45%) 28 (15%) 42 (22%) 16 (8%) 16 (8%) 17(9%) 53(28%)	1.7 (1.0–2.9) 3.3 (1.4–7.7) 1.8 (0.9–3.4) 0.7 (0.3–1.7) 1.1 (0.5–2.5) 1.0 (0.4–2.3) 3.0 (1.5–6.0)	Age, sex, education, smoking, history of urinary infections other than schistosomiasis, high risk occupation	