

A case-control study to identify associated risk factors of renal cell carcinoma in a cohort of Sri Lankan patients
BALASINGAM BALAGOBI, ANURUDDHA M
ABEYGUNASEKERA, KUGADAS SUTHARSHAN,
SWARNA SUVENDRAN, K SURANGA N
WIJAYARATHNA, W MUDITHA CK SAMARAWEERA

Introduction Associated risk factors for renal cell carcinoma (RCC) includes smoking, obesity, hypertension and diabetes mellitus. Studies on their role in Sri Lankan patients are sparse.

Objectives The aims were to determine whether obesity, diabetes mellitus, hypertension and smoking are risk factors for RCC in a cohort of Sri Lankan patients and to describe the clinic-pathological characteristics and primary treatment given in those patients with RCC.

Methods A hospital-based case control study was done in a Teaching Hospital from 1 January 2009 to 31 December 2015. The prospectively collected data included history of smoking, hypertension, diabetes mellitus and BMI. The controls were patients who were admitted after trauma and who required abdominal ultrasonography as part of routine assessment. The controls were accrued at a ratio of 1:2 and were age and gender matched. Chi-squared test was used and $P < 0.05$ was considered significant.

Results There were 178 patients with renal cell carcinoma. Mean age of patients with renal cell carcinoma was 56.9 years. Male to female ratio was 3.5:1. Forty-nine (27.5%) patients were <50 years old. About 36.5% were asymptomatic and diagnosed incidentally by ultrasound scanning. Tumour stage was pT1 in 47.2% and 12.4% had metastases at the time of diagnosis. Radical nephrectomy was the main form (70.2%) of surgery performed. Clear cell carcinoma was the commonest histological type (80.3%) while 14.6% were papillary renal cell carcinomas. Obesity (BMI>30) ($P < 0.01$), diabetes mellitus ($P < 0.05$) and hypertension ($P < 0.01$) were commonly seen among the cases than in controls. There was no difference of smoking between the two groups ($P > 0.5$).

Conclusions Average age at the time of diagnosis of RCC in Sri Lankan patients is lower than the developed world with a large proportion of patients being under 50 years. Obesity, hypertension, and diabetes mellitus are associated risk factors for renal cell carcinoma in Sri Lankan patients while smoking is not.