



## Research Article

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# A Retrospective Study of Body Mass Index, Cigarette Smoking and Hypertension, was the Danger of Renal Cell Carcinoma (Yemen)

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### Abstract

**Aim:** We respectively examined the independent relationship of hypertension, body mass index, and cigarette smoking with the danger of renal cell carcinoma in the middle of males and females.

**Methods:** The recorded of 30 patients who underwent radical nephrectomy between February 2018 to September 2019.

**Results:** In a retrospective study (file of patients) the average age was 43.4 years. In women 14% described a history of hypertension, 26% were smokers and BMI was 25 kg/m<sup>2</sup> in 28.0% and 30 kg/m<sup>2</sup> in 8.1% of the patients. In males 12% described a history of hypertension, 41.8% were smokers and the BMI was 25 kg/m<sup>2</sup> in 52.5% and 30 kg/m<sup>2</sup> in 7.8% of the patients. We confirmed the diagnosis of renal cell carcinoma in 16 females and 14 males alternatively, our pathology the common of cases were defined as strong cell carcinoma (60%), papillary cell carcinoma (15%) and unclassified (25%).

**Conclusion:** Identification of hypertension, developed BMI and increasing pack-years of cigarette smoking perform to independently grow the danger of renal cell carcinoma and also renal cell carcinoma more communal in females because of hypertension and obesity more in the females.

### Keywords

Renal cell carcinoma; Body Mass Index (BMI); Smoking; Hypertension

## Introduction

Renal cell carcinoma is the seventh primary reason for cancer, accounting for 3% of malignancy in men Body Mass Index (BMI) and smoking is accepted danger factors for Renal Cell Carcinoma (RCC). Hypertension and antihypertensive drugs have also been concerned. On the other hand, the independent influence of each factor is not well-defined. Although several studies have described these as individual danger factors in univariate analyses, rarer have estimated

the independent link of each risk factor in multivariate analyses [1,2]. Raised Body Mass Index (BMI) has reliably been originating to be a danger factor for RCC in females but fewer so in males [3-7]. Cigarette smoking has been reliably identified as a danger factor for RCC in males, but not in females [8].

In the one prospective study that involved males and females, the comparative risk between cigarette smokers was significantly elevated for males, but then not for females. Hypertension has been irregularly related to the danger of RCC [9,10], by some studies finding a relationship only among females and others only between males. The danger of RCC in users of thiazide diuretics remains uncertain [3]. Given that comparatively insufficient studies have been conducted with retrospective data and occurrence cases of RCC in the middle of both males and females, we required to control if our cohorts could contribute to the accepting of the apparent sex discrepancy between the previously informed danger factors. We also required examining the independent link of hypertension with RCC, as it is powerfully related to obesity. Consequently, we studied the link between hypertension, BMI, weight change, and cigarette smoking and the danger of RCC.

## Materials and Method

Thirty patients (16 females and 14 males, mean age 43.4 years) with renal cell carcinoma were included in this study in the Department of Urology in EZ Alden AL-Shibany Hospital in Sana'a city. The study was conducted between Feb 2018 to Sept 2019 renal cell carcinoma was the diagnosis on basis of clinical, Imaging methods (U/S, CT) information on elevation was gained from the baseline Questionnaire. While weight was checked in our department. The participant was tested to report physician-diagnosed hypertension. Information on smoking Initiation, cessation and number of cigarettes smoked was queried at baseline. This study was executed in retrospective design and all patients provided written informed consent.

## Statistical analysis

Multivariate analysis was the patient to investigate independent predicted factors for renal cell carcinoma. Chi-square Test and the fisher's exact test were used for the difference between the categorical variable the data were analyzed using the statistical package for social sciences version 18. (SPSS 18) p-value of fewer than 0.05 was considered statistically significant.

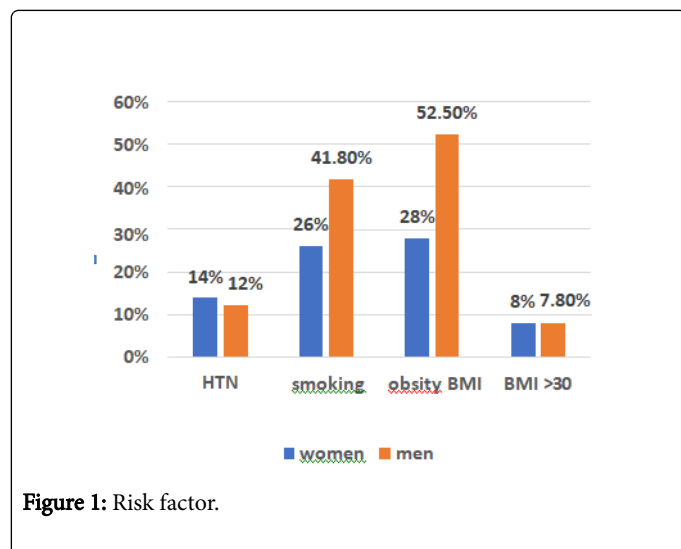
## Results

The present study involves 30 patients' the mean age was 43.4 years (16 women and 14 men) we confirmed the diagnosis of renal cell carcinoma. In women, 14% reported a History of hypertension 26% were a smoker. The BMI was 25 kg/m<sup>2</sup> is 28% of contributors and >30 kg/m<sup>2</sup> is 8.1% (Table 1 and Figure 1). 12% of men with a history of hypertension 41.8% of men were smoker, the BMI was 25 kg/m<sup>2</sup> is 52.5% of the participants and >30 kg/m<sup>2</sup> is 7.8%.

**Table 1:** Shows the danger factor for women and men.

Risk factor	Women	Men
HTN	14%	12%
Smoking	26%	41.80%

Obesity BMI >25	28%	52.50%
BMI >30	8%	7.80%

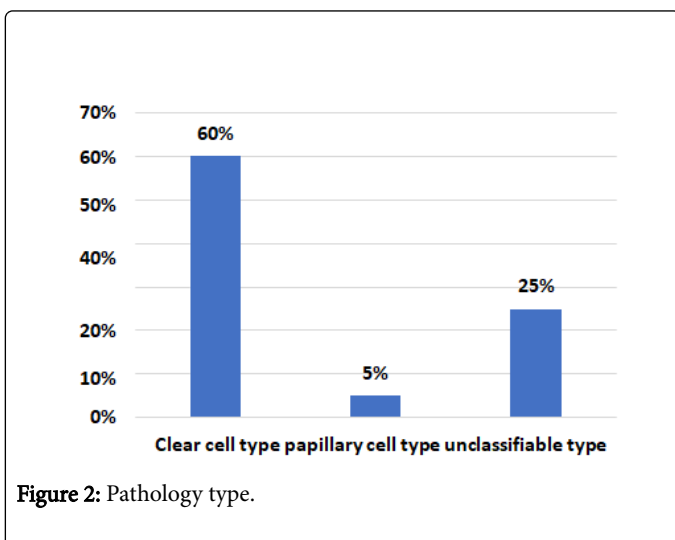


**Figure 1:** Risk factor.

Our pathology the popular of cases were defined as clear cell type 60% papillary cell type is 5%, unclassifiable type 25% (Table 2 and Figure 2).

**Table 2:** Shows pathology type for clear, papillary and unclassifiable type.

Pathology Type	
Clear cell type	60%
Papillary cell type	5%
Unclassifiable type	25%



**Figure 2:** Pathology type.

## Discussion

There is insufficient information on hypertension, obesity, and cigarette smoking as a danger factor for RCC and the value of retrospective data such as the recent study [11]. The previous reports have recommended that the danger related to BMI, cigarette smoking and hypertension have different magnitudes between males and females [12]. Our data is reliable with that probability; however, the numeral of cases involved in our study was too small to mate conclusive assessments across sex. In our study, BMI was related to significantly increased danger in females whereas, a non-significant risk was observed in males 41.8%. On the other hand, cigarette smoking was linked with danger in males, even though, non-significant links with females. Hypertension was independently related to significantly increased danger of RCC in both females and males [13]. Although, in our study, hypertension was more common in women so the risk of RCC more in women than men. The previous report has implicated and hypertension medication as a causal agent in the carcinogenesis of the prevalence of hypertension individuals in particular thiazide diuretics have been supposedly related to as increased danger of RCC [14]. In the present study, we did not have complete information in construction on dose and duration of thiazide therapy nine to thirteen and the mechanism by which hypertension influences production an accused role in RCC is poorly understood.

## Conclusion

This study found that hypertension was related to an increase in renal cell carcinoma in men and women. BMI was related to significantly increased danger only in women and cigarette smoking was increased danger only in men. The growing occurrence of RCC was done, in part, to increase in the prevalence of these modifiable danger factors, the mechanism by which these factors in flounce the growth of RCC need additional study.

## Authors' Contribution

Dr. Abdulbast Darwish, Ezaldean AL Shibany, Hael Saeed, Duyazen ALhosam, Abdullah Ghamdhan, and Abdualmlk AL Mekhlafy; study concept and design, data acquisition, interpretation; manuscript drafting, study supervision, the idea of the manuscript, collection, analysis, writing and literature review. Dr. Ali Ahmed Al-Zaazai: revision of the manuscript for important intellectual content, and publication.

## Conflict of Interests

The authors declared that there were no conflicts of interests arising in the process of this study.

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