

## Demography of Urinary Cancer in the States of Kedah and Perlis, Malaysia.

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**Abstract:** Urological cancers are highly prevalent in the world and include cancers of the urinary bladder, prostate, kidney, ureter, penis and testis. Recently National Cancer Registry Report by the Ministry of Health, Govt. of Malaysia has also mentioned that urological cancers have become more common among the multi-racial Malaysian population. Urological cancers are becoming a major problem in both men and women and the most affected age group is between 50-70 years of age. Prostate and bladder cancers are listed among ten most frequent cancers in the main ethnic groups in Malaysia, viz. Malays, Chinese and Indian.

**Abbreviations:** NCR National Council Registry

eHIS Electronic Hospital Information System

SOPD Surgical Out-Patient Department

HSB Hospital Sultanah Bahiyah, Alor Setar, Malaysia

RCC Renal Cell Carcinoma

**Key Words:** Urological cancer, 2008-2012, Histo-pathological Reports Peninsular Malaysia.

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### I. Introduction

Although studies and reporting on demographical aspects of urological cancers have been done rather extensively in the western parts of the world, demographical studies on urological cancers in Asia, more specifically in Malaysia, have not been carried out so extensively. Current epidemiological data on urological cancers in Malaysia is superficial with emphasis on its racial and gender distribution, age specific incidence and annual incidence with mainly NCR reports to contribute to the statistics. There is very sparse data on the demographic distribution of urological cancers in each state.<sup>1</sup>

Prostate and bladder cancers are listed in NCR under 10 most frequent cancers affecting the main ethnic groups in Malaysia, which are Malays, Chinese and Indian.<sup>2</sup>

HSB is the main reference hospital for urology in the northern region of Peninsular Malaysia. It has a referral area of states of Kedah (approximately 9500 sq. km.) and Perlis (approx. 821 sq. km.) with a total estimated population of 2.12 million people. Alor Setar, capital of Kedah state, itself has about 350,000 people with 262,000 Malays (72.9 %), 78,500 Chinese (22.4 %), 8,300 Indians (2.4 %) and 5000 (2.3 %) others.

### II. Aims And Objectives

Cancer is becoming a great healthcare burden in Malaysia, with an estimated incidence rate of 150 per 100,000 population.<sup>4</sup>

Our aims and objectives to go through this study were—

1. to provide an overview of the variation in the demographics of urological cancers in the states of Kedah and Perlis
2. to better understand the disease characteristics and to serve as a source for future reference, and
3. to extract data that is needed to plan for an effective implementation of primary prevention strategies, appropriate management programs and proper allocation of health resources in these areas.

### III. Materials And Method

This was a retrospective study of patients who were diagnosed and treated in Urology Unit under department of Surgery in HSB from 2008 to 2012.

A questionnaire was prepared to extract relevant information to perform this study. All these data were obtained from

1. computerized recording system, i.e. eHIS which contained patient-consented particulars, and
2. SOPD cards.

Each patient has a surgical outpatient registration number under which data regarding age, gender, race, address, imaging and histopathological reports are available.

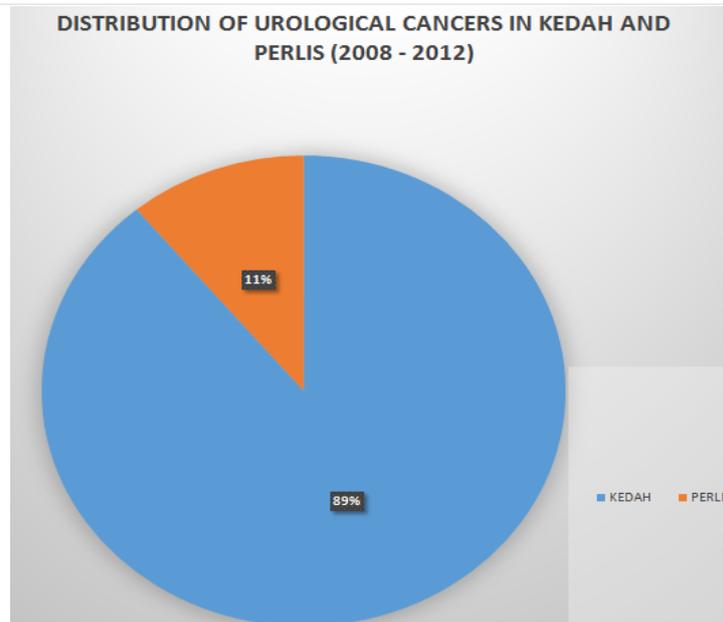
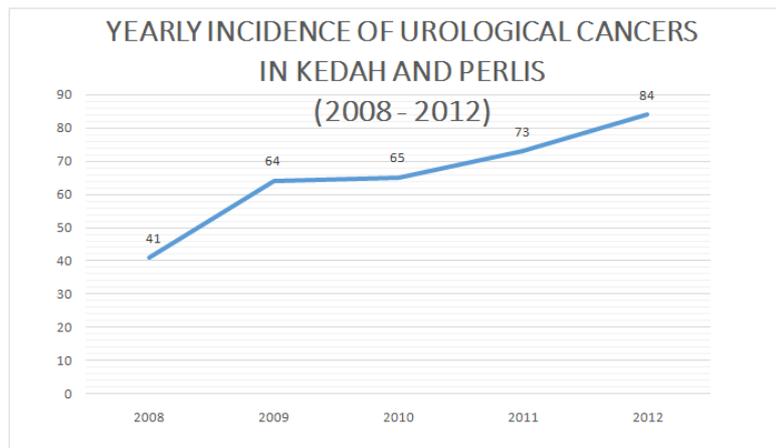
**Inclusion Criteria**-- Patients diagnosed with urological cancers, viz. renal, ureteric, bladder, urethral, prostatic, testicular and penile cancers, based on histopathological reports and having complete records, were included in this study.

**Exclusion Criteria**—Patients having grossly incomplete data or coming from other states of the country (other than Kedah and Perlis) were excluded from our study materials.

Methodology of the study was rather simple. All relevant data were entered into a Microsoft Excel Datasheet and analysed.

#### IV. Results

1. No. of urological cancers increasing every year.
2. In 2008, some 41 diagnosed cases of urological cancers from Kedah and Perlis were admitted in HSB, while this number increased to 84 in 2012.



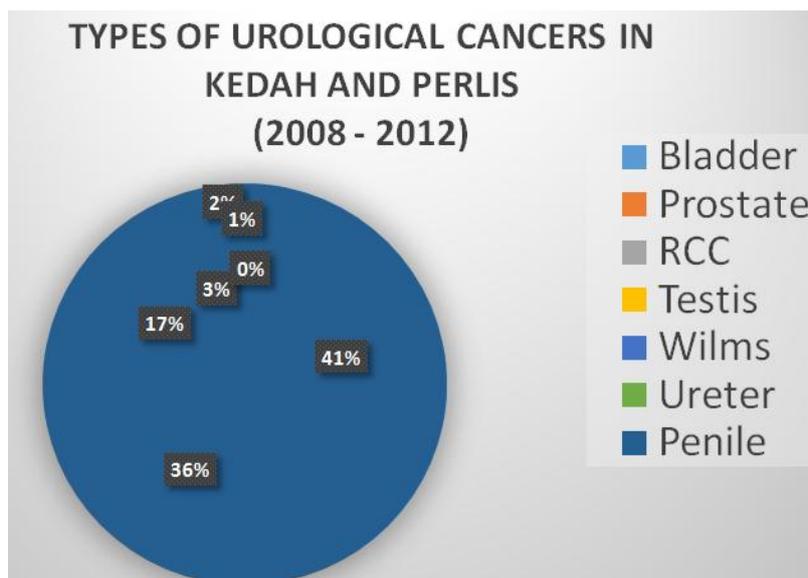
**1. Kedah 89% 2. Perlis 11%**

**Types of Urological cancers in Kedah (2008—2012)---**

1. Bladder cancer 41%
2. Renal cell carcinoma 17%
3. Prostate 36%
4. Others 6%

**Types of Urological cancers in Perlis (2008—2012)---**

1. Bladder cancer 50%
3. Prostate 22%



2. Renal cell carcinoma 20% 4. Others 8%

Bladder cancer with 41% was the commonest and penile cancer with 1% was rare in Kedah and Perlis during 2008 to 2012.

**Gender wise distribution of Urological cancers in Kedah and Perlis (2008—2012)—**

1. Male 85% 2. Female 15%

**Ethnicity distribution of Urological cancers in Kedah and Perlis (2008—2012)---**

1. Malay 74% 3. Chinese 21%  
2. Indian 3% 4. Others 2%

**Age wise distribution of Urological cancers in Kedah and Perlis (2008—2012)---**

S. No.	Age in yrs	No. of cases	S. No.	Age	No.	S.No.	Age	No.	
1.	1 to 10	8	2.	11 to 20	2	3.	21 to 30	6	
	4.	31 to 40	1	5.	41 to 50	206.	51 to 60	65	
	7.	61 to 70	85	8.	71 to 80	99	9.	81 to 90	2710.
								91 to 100	4

**Area wise distribution of Urological cancers in Kedah---**

S. No.	Areas	No. of cases	S.No.	Areas	No. cases	S.N.	Areas	No. cases
1.	AlorSetar	136	2.	Jitra	38	3.	Pendang	24
4.	Kuala Nerang	13	5.	Langkawi	126.		Gurun	11
7.	Kuala Kedah	9	8.	PokokSena	8	9.	Sungai Petani	7
	Changloon	4	10.	Sik	5	11.	Kuala Ketil	512.
13.	Kodiang	4	14.	Baling	3	15.	Kulim	3
			16.	Yan	2	17.	Kepala Batas	218.
19.	Kaki Bukit	1	20.	Bedong	1	21.	Air Hitam	1
			22.	Padang Besar	1			

**Distribution of types of Urological cancers in AlorSetar—**

1. Prostate 43% 2. Bladder 31% 3. Renal Cell Carcinoma 19%  
4. Testis 4% 5. Wilms 1% 6. Ureter 1%  
7. Penile 1%

**Area wise distribution of Urological cancers in Perlis (2008—2012)—**

S. No.	Area	No. of cases	Area	No. of cases	
1.	Kangar	20	2.	Kuala Perlis	7
3.	Arau	5	4.	Simpang Empat	3

**Distribution of types of Urological cancers in Kangar, Perlis(2008—2012)**

1. Bladder 55% 2. Renal Cell Carcinoma 20% 3. Prostate 15% 4. Wilms 10% 5. Testicular Nil 6. Ureteric Nil  
7. Penile Nil

**Cigarette smoking among patients with Urological cancers in Kedah and Perlis (2008-2012)**

1. Smoker 61% 2. Non-smoker 39%

**Smoking status among patients with Bladder cancer in Kedah and Perlis (2008-2012)**

1. Smoker 66% 2. Non-smoker 34%

## **V. Discussion**

The demographics of malignancies are well established in Malaysia as a whole, but urological malignancies specifically lack substantial demographic information. Our study provides a vast source of demographic data from 2008 to 2012 regarding urological malignancies occurring in the northern part of Peninsular Malaysia.

Data of patients, with well documented urological malignancies, were collected from HSB, Kedah, which is a referral hospital for the northern region of Peninsular Malaysia. Though these data do not represent the demographic pattern of all the urological malignancies in the country, however, they give a fair and accurate representation of the various urological malignancies among the local population in Kedah and Perlis which are part of Northern Peninsular Malaysia.

There has been an increasing incidence of urological cancers in Kedah and Perlis over last 5 years. In Singapore, an increase in the incidence of urological cancers, especially prostate cancer, was observed in the last decade due to widespread use of Prostate Specific Antigen screening test among the population. 7, 8

Our work showed a male to female ratio of urological cancers to be 5.7 to 1; this may be due to cancers of prostate, testis and penis occurring in males only. Females may be less sensitized to the cancers because of less risk factors, like, smoking and occupational exposures. 2

Distinctly, high frequency of bladder and prostate cancer as compared to other urological cancers is consistent with the data from the latest National Cancer Registry Report in 2007. 1

A report published in Asia Pacific Journal of Cancer Prevention also showed that urinary bladder and prostate cancers were among the ten most frequent cancers affecting Malaysian males of Malay, Chinese and Indian ethnicity. 5

It is clear from our study that both in Kedah and Perlis, bladder carcinoma is the commonest urological cancer. Mean age of the patients suffering from urological cancers was 63.8 years, affecting persons of 8 months to 93 years, the highest incidence in the age group between 71 to 80. These results are similar to National Cancer Registry in Malaysia and also neighbouring country Thailand, where the incidence of bladder and prostate cancers are highest in 70 years and above. 1,9

Incidence of urological cancers is more among cigarette smokers. Smoking has already been found to be one of the leading predisposing factors in carcinoma of the bladder. 10

Our data is showing that 201 patients suffering from urological malignancies are smokers out of total 327 patients (i.e. 61%).

## **VI. Conclusion**

High incidence of prostate and bladder cancer found in this series is consistent with the NCR reports. It suggests need for a more aggressive screening process and understanding of these cancers in terms of risk factors. Detailed cross-sectional studies can be designed to demonstrate relevant genetic predisposition and detailed lifestyle contributing factors.

Through this study we have managed to extract a pool of data which encompasses various demographic details regarding urological malignancies in the northern part of Peninsular Malaysia and we hope that this pool of data can be exhausted as a source of reference, to spur more research efforts and to establish a better understanding of this insidiously rising disease. In a country with a population of diverse ethnic background, further research on looking into the demographics and various risk factors of developing urological malignancies is much needed.

## **VII. Summary**

As established by the most recent NCR report by the Ministry of Health, Malaysia, urological cancers are becoming more common among the multiracial Malaysian population.

HSB is the main reference hospital for Urology in the northern part of Peninsular Malaysia. It has a referral area of states of Kedah and Perlis with a population of about 2.12 million.

Our study provides a vast source of demographic data from 2008 to 2012 regarding urological malignancies occurring in the northern part of Peninsular Malaysia. It was a retrospective study of patients who were diagnosed as urological cancer and admitted and managed in the Urology unit under Surgery department of HSB, Alor Setar. In total 327 patients were admitted there during the said 5 years. Their detailed study showed a rising trend of urological cancers in Kedah and Perlis over 5 years; which may be due to better accessibility of healthcare facilities. So, more awareness among the people should be brought to prevent further rise, early detection and acceptance to treatment.

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