Carcinoma of the urinary bladder in a tertiary care setting in a developing country

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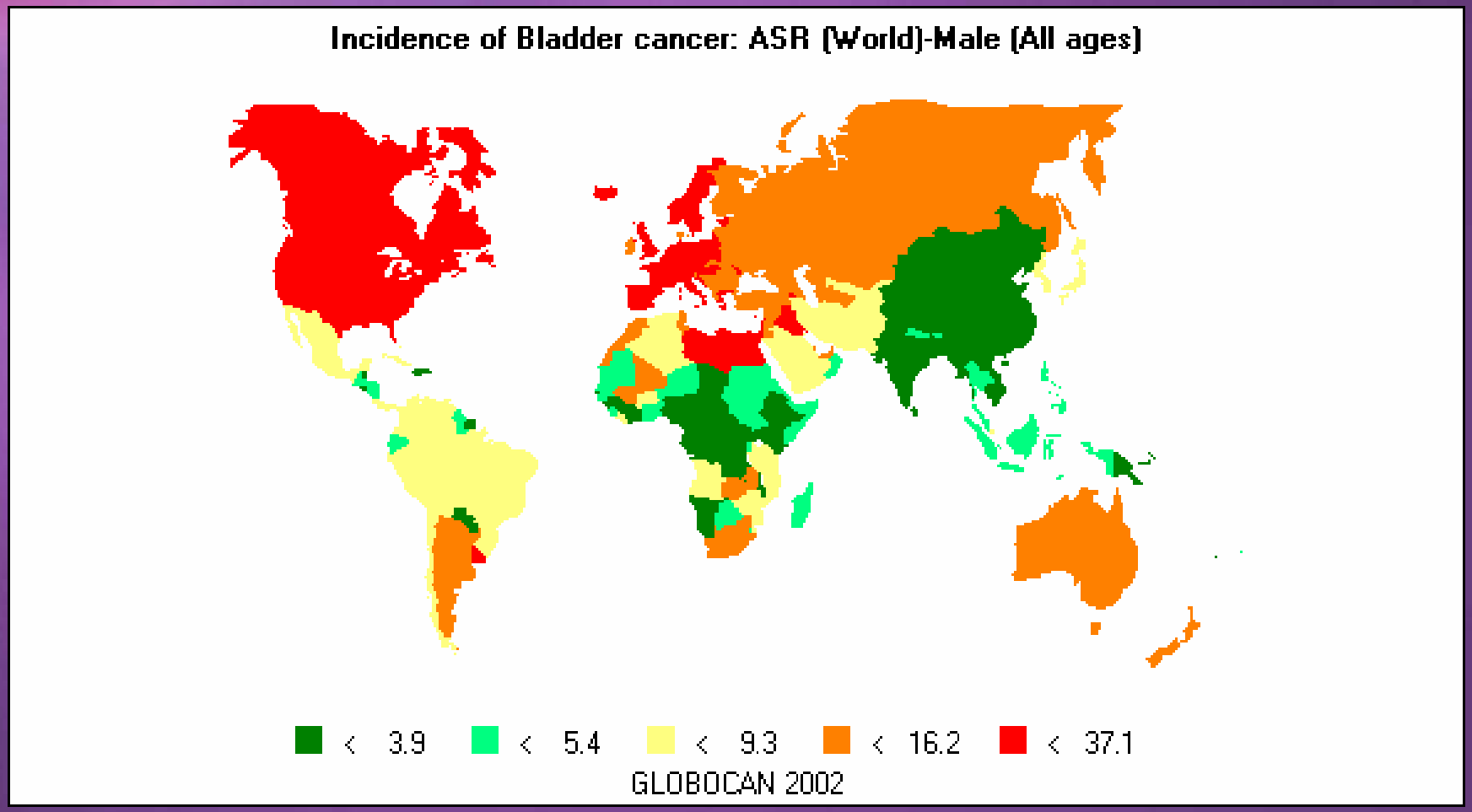
Urinary bladder cancers

World-wide it accounts for 2/3 rd of all urinary tract cancers; Summary of bladder cancer incidence & mortality: Age Standardized Rate (ASR)/100,000

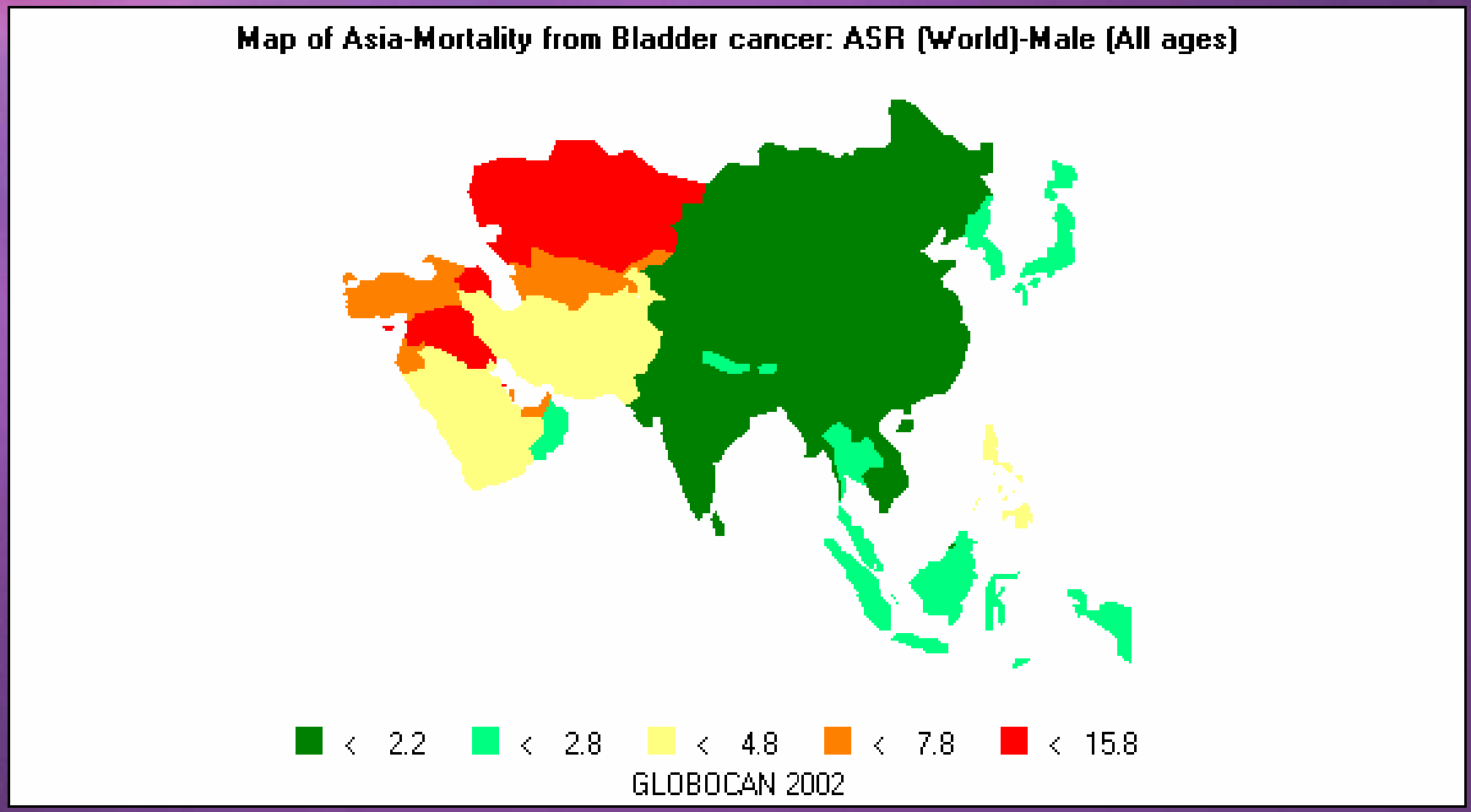
Region*	Incidence Males	Incidence Females	Mortality Males	Mortality Females
World	**10.1**	2.5	***4.0***	1.1
Developed countries	**19.5**	**4.1**	***5.6***	**1.4**
Developing countries	**5.3**	1.6	***3.1***	0.9
South-East Asia	**4.0**	1.1	***2.2***	0.6

*GLOBOCAN 2002 Database

Incidence ASR per 100,000 males (< 3.9/100,000 men)-World map



Mortality ASR per 100,000 males (< 2.2/100,000 men)-Map of Asia



Pakistan-Statistics

Population **150 million people**
Average life expectancy 63.4 yrs.
Female 63.2 yrs. **Male 62.0 yrs.**

Shaukat Khanum Memorial Cancer Hospital & Research Center

Opened in Dec. 1994-Lahore, Punjab
Tertiary care cancer facility-Treatment of almost 75% of the cancer patients is supported by the hospital

Urinary bladder cancers-Pakistan

Shaukat Khanum Memorial-Hospital-based registry

- 1994-2004
- Tenth commonest cancer
- 606 patients-nearly 2.57% of the total malignancies

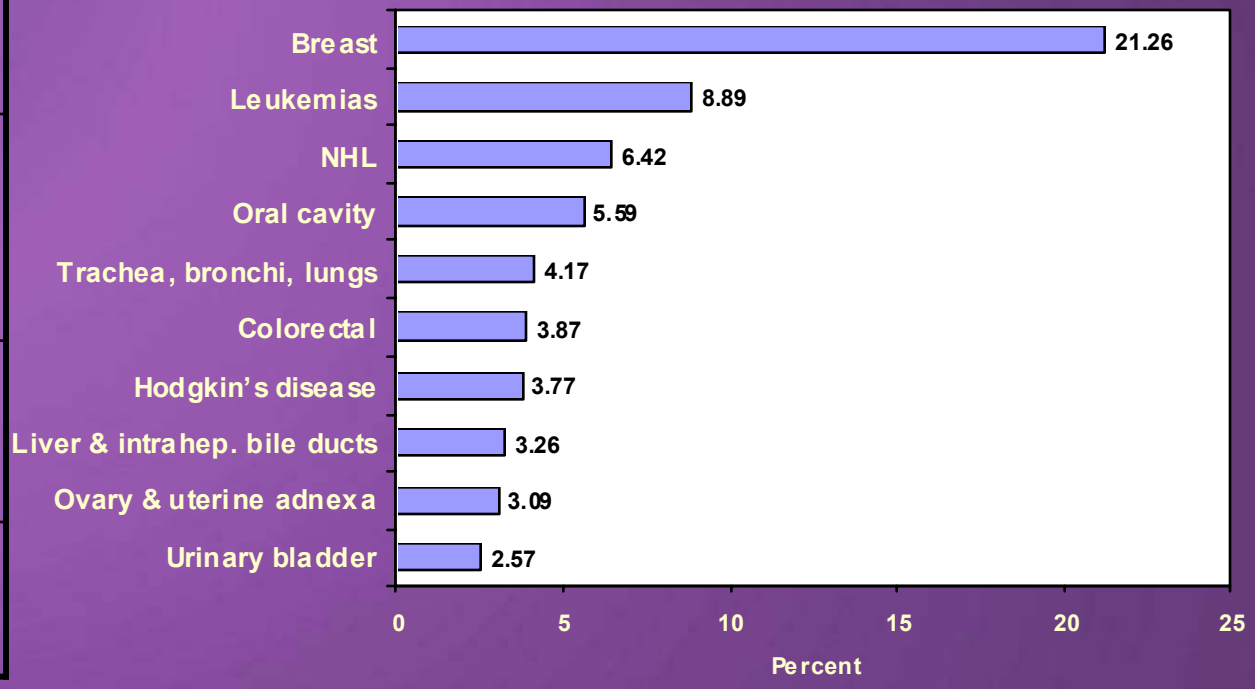
Karachi Cancer Registry-Population-based cancer registry

- 1998-2002
- 4th commonest malignancy
- ASR: 6.8/100,000

Cancer Statistics-Dec. 1994 – Dec. 2004

SKMCH & RC

Data from the hospital cancer registry
Over 24, 000 patients diagnosed with cancer in 10 years
Bladder ca cases=606 (age and sex combined)
Ranked 10th most common cancer



Age distribution by gender

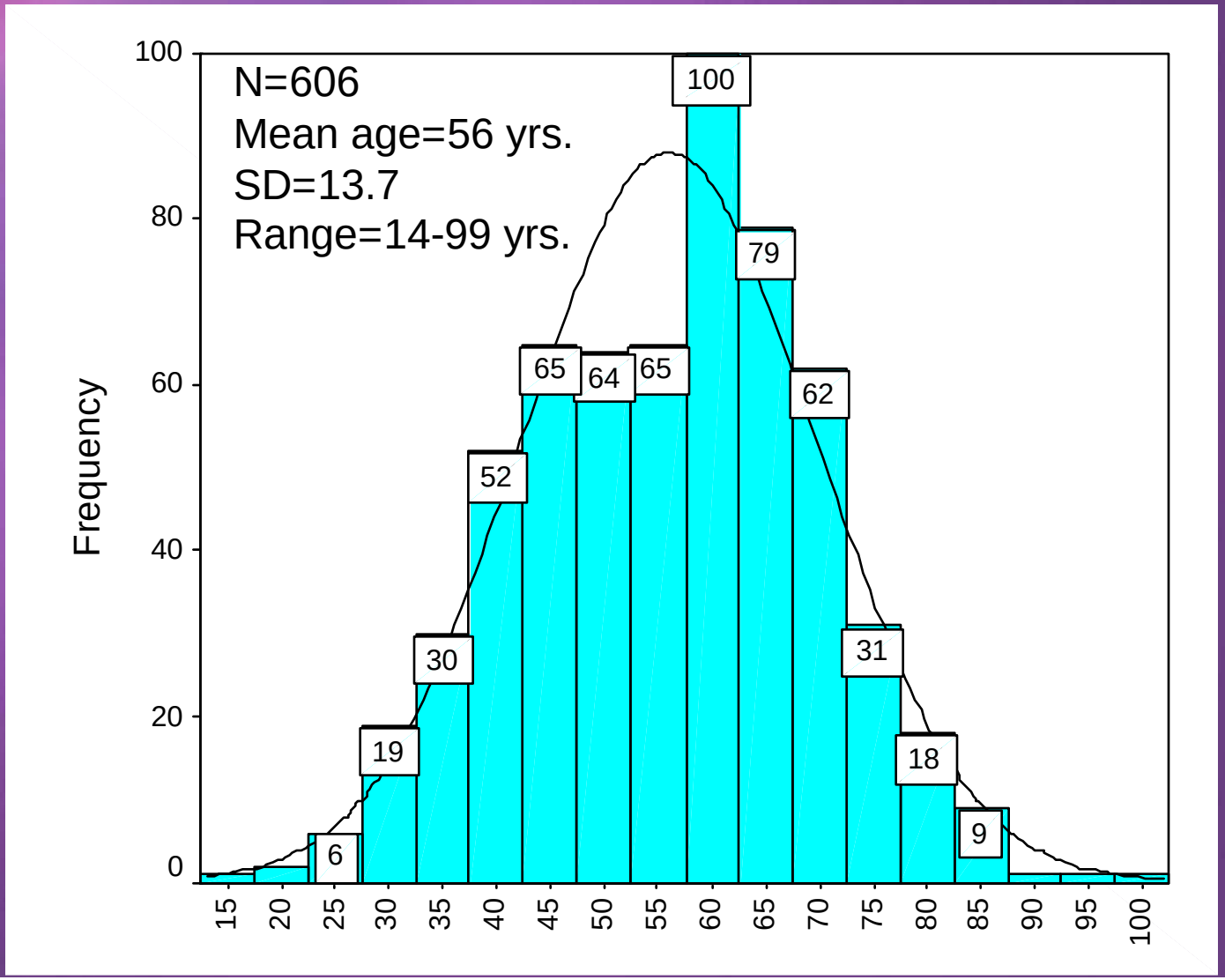
Bladder cancers-SKMCH & RC

Age distribution (in years)

Statistics	Men	Women
N (606)	504 (83%)	102 (17%)
Mean age	56 (18-99)	55.5 (14-95)
Median	57	56
Mode	60 (7.5%)	**45 (11%)**

Urinary bladder cancers-

Shaukat Khanum Hospital



Risk factors

Bladder cancers-SKMCH & RC

Risk factors	Men	Women
Smoking	35%	2%
Few-other forms of tobacco	4%	8%
Pelvic irradiation; Having worked in a shoe factory, textile mill, and pesticide factory	1% (4 patients)	-
No risk factors	21%	42%
Not known	40%	48%
Schistosomiasis	-	-

Symptoms

Bladder cancers-SKMCH & RC

Symptoms	Men	Women
Hematuria	**55%**	**53%**
Other symptoms (Frequency & dysuria)	27%	25%
Not known	18%	22%

Histology

Bladder cancers-SKMCH & RC

Histopathologic type

Histology	Count	Percent
Transitional cell ca	**522**	**86**
Squamous cell ca	23	3.8
Adenocarcinoma	15	2.6
Undifferentiated ca	46	7.5
Total	**606**	**100**

Tumor grade

Bladder cancers-SKMCH & RC

Tumor grade

Grade (G)	Count	Percent
G1	59	10
G2	153	25
G3	230	38
G4	17	3
GX	147	24
Total	606	100

Disease stage

Bladder cancers-SKMCH & RC

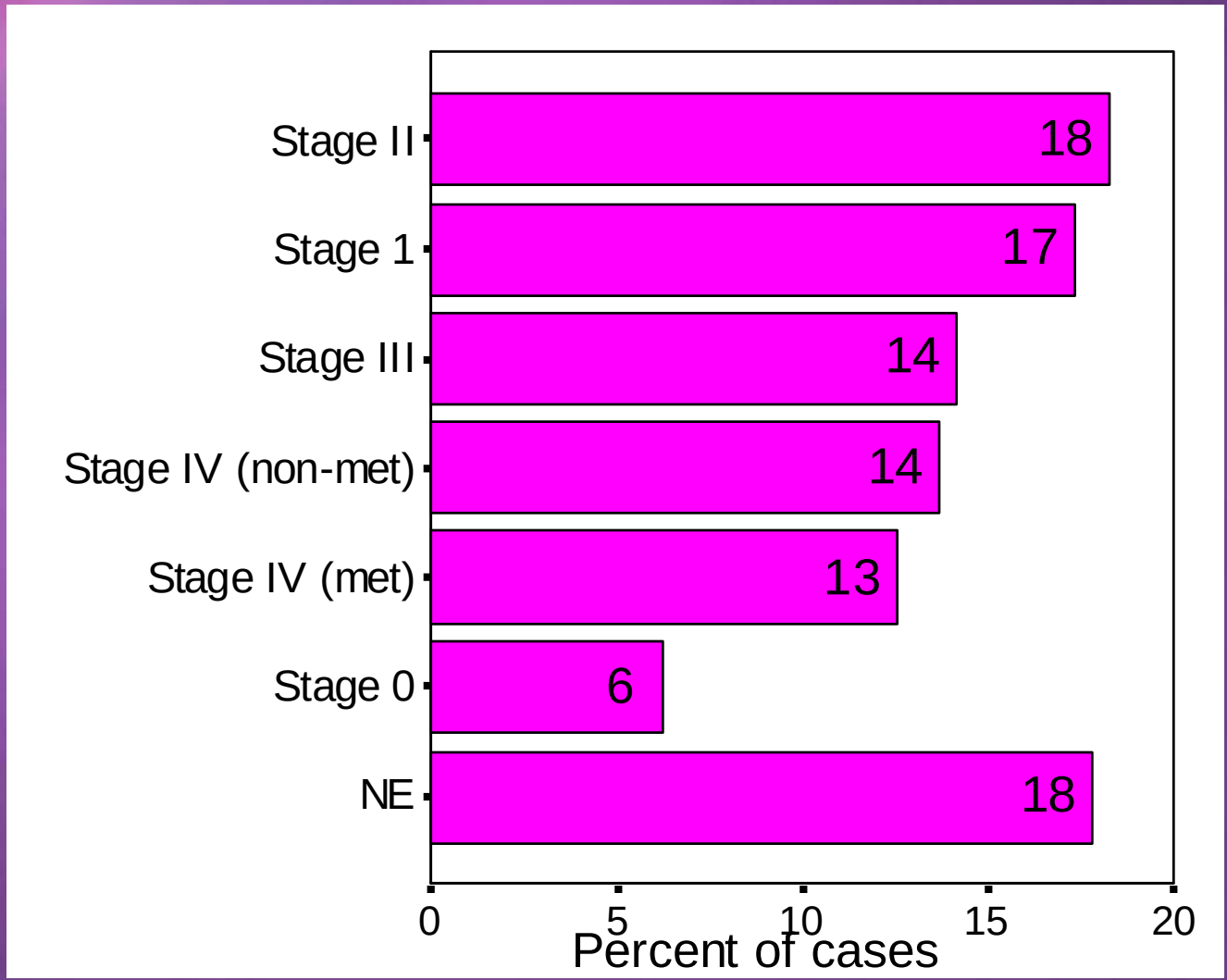
Stage at presentation*

Disease Stage	Count	Percent
0	38	6
I	105	17
II	**111**	**18**
III	86	14
IV (Non-metastatic)	82	14
IV (Metastatic)	76	13
Not evaluable	*108*	*18*
Total	**606**	**100**

*American Joint Commission on Cancer criteria-the AJCC Cancer Staging Manual-Sixth Edition

Stage at presentation (%)

Bladder cancers-SKMCH & RC



Bladder cancers

Bladder cancers-SKMCH & RC

Class of Case*

Class of case	Count	Percent
0	3	0.5
1	27	4.5
2	**268**	**44.2**
3	**308**	**50.8**
Total	**606**	**100**

*Facility Oncology Revised Data Standards-Revised for 2004; Commission on Cancer

Bladder cancers

Bladder cancers-SKMCH & RC

Average follow-up time

Class of Case	Months	Years
All cases combined (N=606 cases)	27	2.25
Analytic cases (Class 0-2: 298 cases)	**35**	**2.9**

Salient features of urinary bladder cancer in patients at SKMCH & RC

Male to female ratio	5:1
Hematuria	> 50% patients
Smoking history	> 35% men & 2% women
No risk factor, specially smoking	20% patients
Histologic grade	G1 & 2-35%; G3 & 4-41%
Disease stage	Advanced III & IV 41% patients
Histologic subtype	Transitional cell > 80% patients
Class of case	Analytic cases, nearly 50%

Comparisons
Male predominance

SKMCH & RC: **Male to female** (M:F) ratio 5:1

– *Comparison* with other studies

Country	M:F	Authors	Year
Pakistan	5:1	Ahmed et al. Ullah et al.	2002 2001
US	4:1	Schatte et al.	2000
Italy	7:1	Schatte et al.	2000
Spain	6.7:1	Puente et al.	2003

Male predominance and smoking

Male predominance and greater prevalence of smoking-35% of the Shaukat Khanum male bladder patients were smokers versus 2% of females.

Authors	Year	Report
Cotran et al.	1999	Smoking ↑ the risk 3-7 folds
Auerbach	1987	Dose-response relationship
Casteleo	2001	Smoking cessation = ↓ risk of bladder ca

Implications
A-Create awareness

- Create public awareness about the implications of tobacco smoking and exposure to environmental tobacco smoke;

- Further look into risks factors associated with the development of bladder cancer in our population.

Implications-
B-Introduce collaborative staging

1. Introduce Collaborative Stage (CS) so as to allow combined pathological and clinical “mixed” or “best” stage to be captured.
2. This will result in a unified data set that will combine and standardize the information needed to assign stage in the AJCC (TNM), SEER (EOD) and Summary Stage (SS) 1977 and 2000 systems and help to derive the T, N, M, stage group, Extent of Disease (EOD), and SS applicable to each cancer site.

Implications- Collaborative staging

3. It will also provide a comprehensive system to improve data quality by standardizing rules for timing, clinical and pathologic assessments, and compatibility of descriptions across all of these systems for all cancer sites.

Thank you!

Acknowledgements:

Family, Friends, Co-workers, and APHA

American Public Health Association 135th Annual Meeting
Washington, DC
November 3-7, 2007

Bladder cancers

Bladder cancers- Management at SKMCH & RC

Superficial

***Low risked patients: Transurethral Resection of the Bladder Tumor (TURBT) followed by**

3-monthly cystoscopy for first two years,

6-monthly for next 2 years, and then yearly.

***High-risked patients: TURBT and Intravesical BCG**

Muscle invasive

***Radical cystectomy with ileal conduit**

***Maximal debulking with TURBT followed by chemoradiation.**