

Cancer of the Urinary Bladder

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Bladder Cancer Natural History

- ◆ **60,000 and 15,000 new cases and Deaths/year, Respectively**
- ◆ **Fourth (10%) and Eighth (4%) Most common cancer, Men & Women, Respectively**
- **Typically Diagnosed in 5th -7th Decade of life**
- ◆ **Non Muscle Invasive Disease: 75%**

Etiologic Factors

- **Cigarettes**
- **Occupation: Dyes, rubber, textile, diesel exhaust**
 - **Aromatic amines**
 - **Nitrates/ Nitrosoamines**
- **Chronic cystitis**
- **Cyclophosphamide**
- **Radiation therapy**

Bladder Cancer

Diagnosis and Presentation

Signs and Symptoms

■ Hematuria

- **Gross – 13 - 34.5% have Bladder Cancer**
- **Microscopic - 0.5 - 10.5%**
- **High-Risk - >40yo, Smokers, Occupational Exposure, Prior History, Recurrent UTI – 1 Abnormal UA Justifies Work-up**

Gross Hematuria – Must Rule Out Bladder Tumor!!

Signs and Symptoms

- **Irritative Urinary Symptoms**

Must Rule out Infection

- **80% of CIS Pts Present with:**

- **Urgency**
- **Frequency**
- **Dysuria**

Rationale for Early Detection

- **Excellent Cure Rates for Non Muscle Invasive Disease**
- **Treatment of Early Tumors is Relatively Less Complicated**
- **Opportunity Exists to Detect Tumors Destined to Invade Muscle Before They Actually Do So**

Hematuria

- **Evaluation:**
 - **Urinalysis**
 - **Urine Culture**
 - **CT Scan**
 - **Cystoscopy**
 - **Urinary Cytology**

Office Cystoscopy

- **Thorough Endoscopy of Urethra and Bladder**
- **Local Anesthesia**
- **Photography of Bladder**
- **Cytology – to Assess for Cancer Cells**

Bladder Tumor - Cystoscopy



Bladder Cancer Surveillance

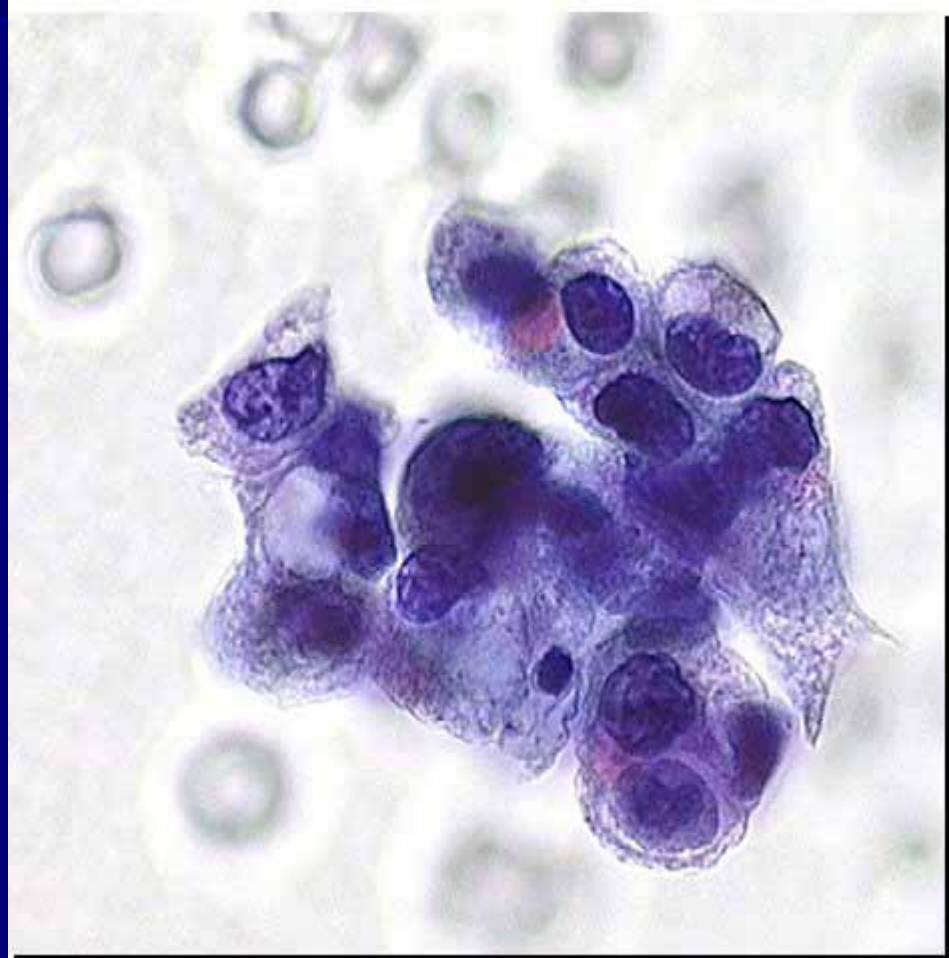
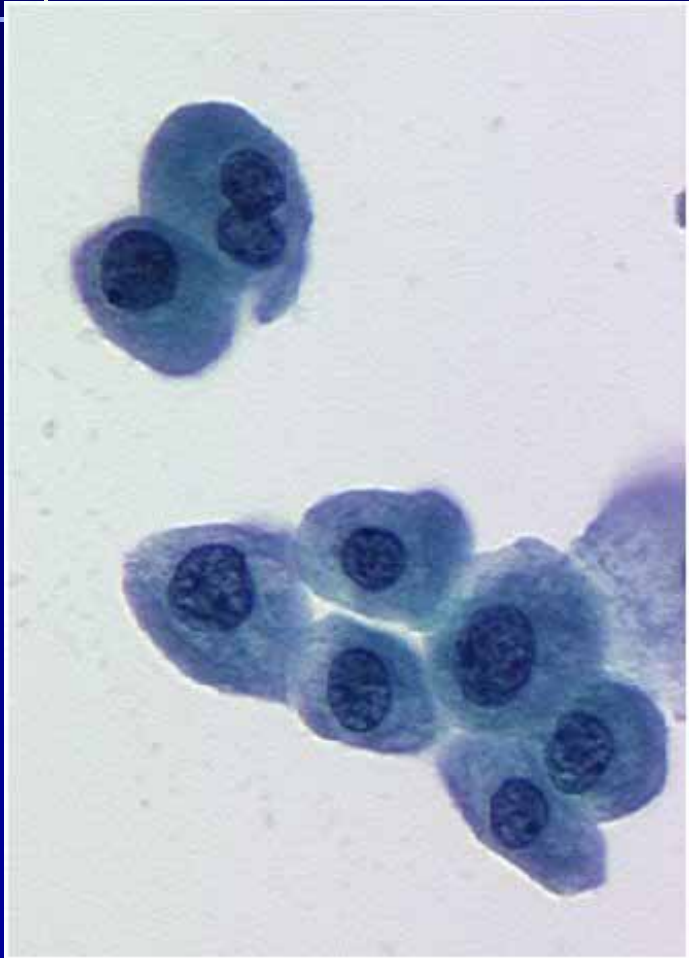
- **Cystoscopy**

- **Sometimes Misses High-Grade CIS**
- **Unable to Detect Upper Tract Disease**

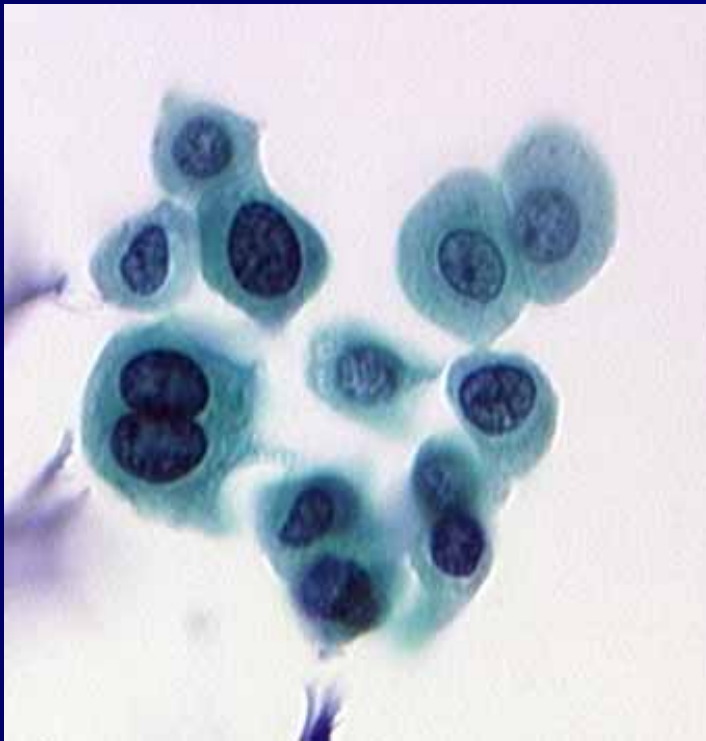
- **Urine Cytology**

- **Detects High-Grade CIS**
- **Frequently Misses Low-Grade Papillary Tumors**
- **Overall Sensitivity 30%, Overall Specificity = 95%**

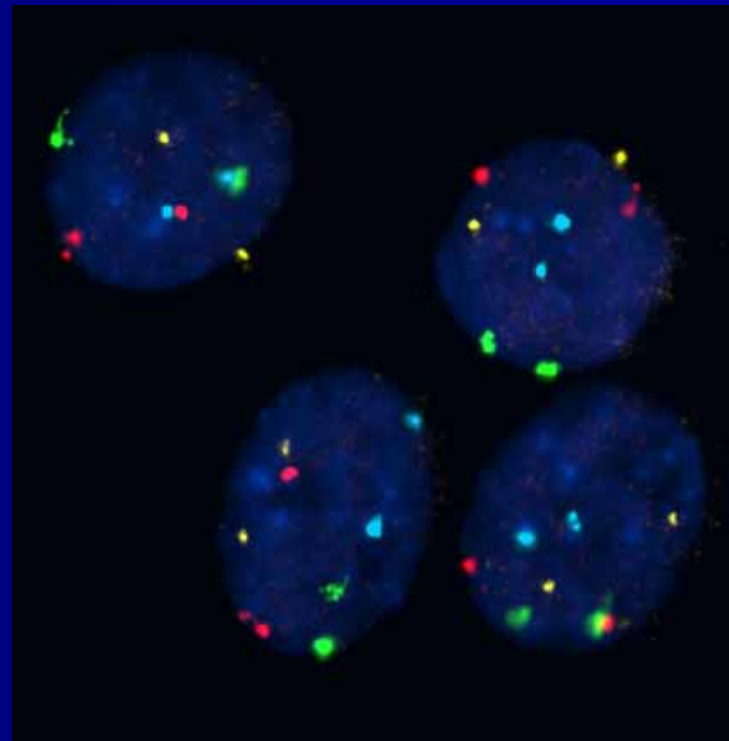
Urine Cytology



Combining Morphology with DNA Technology: Molecular Cytology



Cytology



Molecular Cytology

Radiology Imaging

