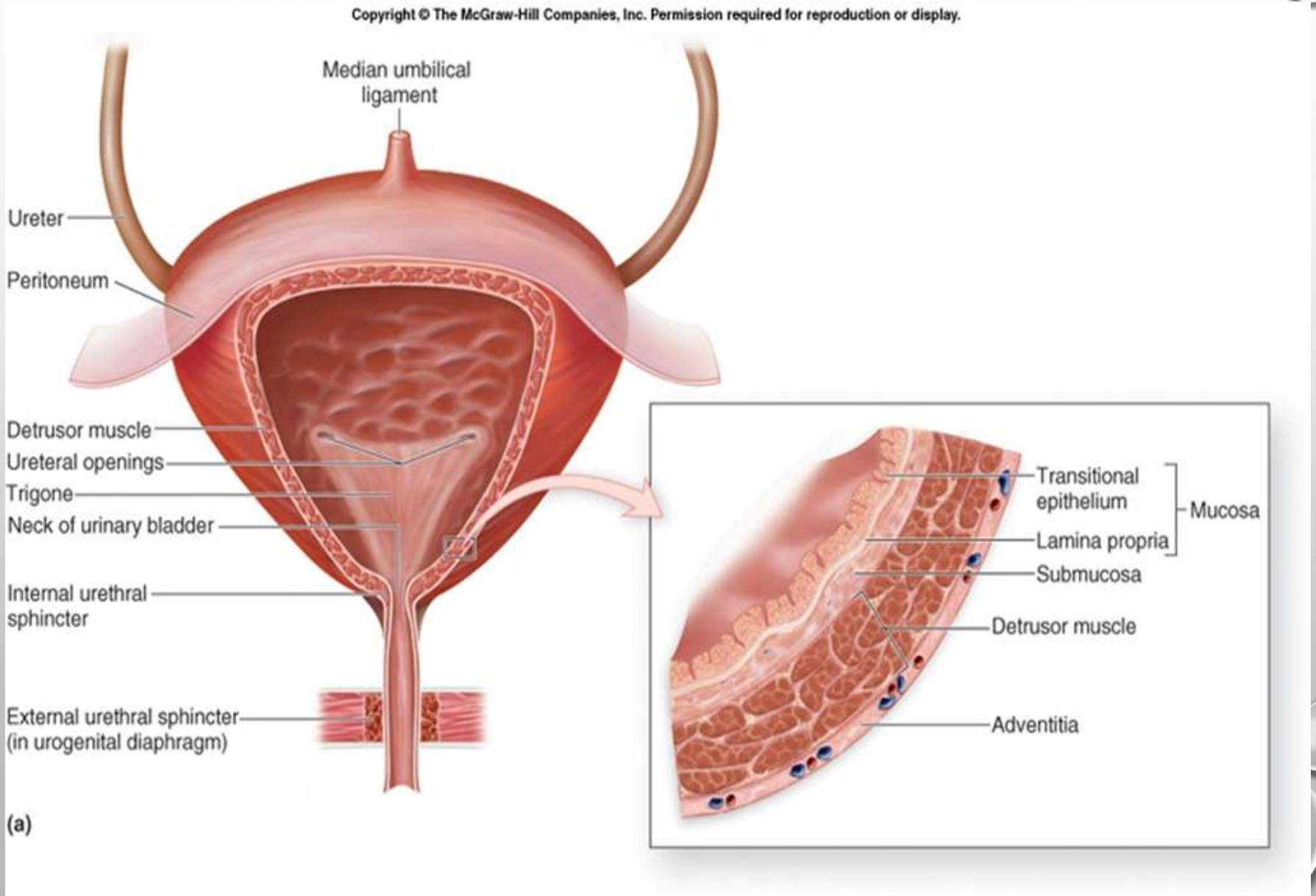
TUMOR BULI

ANATOMI BULI



FISIOLOGI BULI

- FUNGSI : MENAMPUNG URIN DARI URETER-KEMUDIAN MENGELUARKANNYA MELALUI URETRA DALAM MEKANISME MIKSI
- KAPASITAS VOL MAKSIMAL DEWASA : 300 – 450 ML
- ANAK- ANAK (FORM KOFF) :

KAPASITAS BULI-BULI = {UMUR $_{(TAHUN)}$ + 2} X 30 ML

EPIDEMIOLOGI

INSIDENSI & PREVALENSI

- 3X LEBIH BANYAK PADA LAKI-LAKI DARI PADA PEREMPUAN.
- LAKI-LAKI → URUTAN KE-4 (*PROSTATE, LUNG, AND COLORECTAL CANCERS, BLADDER CANCER*)
- ANTARA TAHUN 1985 S.D. 2005 INSIDENSI MENINGKAT > 50 % DAN ANGKA TERSEBUT MENINGKAT LEBIH CEPAT 25 % PADA LAKI-LAKI.
- MALIGNANSI KEDUA TERSERING PADA USIA PERTENGAHAN DAN USIA TUA PADA LAKI-LAKI (SETELAH CA PROSTAT).

Campbell, Walsh Urology, 9th edition

MORTALITAS

- THE *MORTALITY RATE* → 100,000 ORANG/ TAHUN

USIA

- CA BULI DAPAT TERJADI PADA BERBAGAI MACAM USIA (TERMASUK ANAK-ANAK). INSIDENSI PALING BANYAK PADA DEWASA TUA → 69 TAHUN (LAKI-LAKI) & 71 TAHUN (PEREMPUAN)

MOLEKULAR "PLAYER" IN BLADDER CARCINOGENESIS

1. INAKTIVASI BEBERAPA GEN SUPRESOR TUMOR MENJADI HAL YANG PENTING DALAM PERKEMBANGAN DAN PROGRESIVITAS CA BULI → *TP53* (YANG SECARA NORMAL MENGHAMBAT PROGRESIVITAS SIKLUS SEL, MEMPERBAIKI KERUSAKAN DNA/ABNORMALITAS SEL KRN PROSES APOPTOSIS DAN MENGHAMBAT ANGIOGENESIS)
2. ONKOGEN MENGAKTIVASI MUTASI GEN YANG MENGINDUKSI KARSINOGENESIS, DENGAN CARA MENGHINDARI MEKANISME NORMAL DARI PENGONTROLAN PERTUMBUHAN SEL.
3. OVEREXPRESSION OF NORMAL GENES → *FOR THE RECEPTOR OF EGF (ERBB1) AND ERBB2*

FAKTOR RISIKO

1. MEROKOK (50% OF CASES IN MEN AND 31% IN WOMEN)
2. OCC*UPATIONAL EXPOSURE* → PEKERJA DI INDUSTRI KIMIA, KARET, PERMINYAKAN, KULIT DAN INDUSTRI PRINTING→ RISIKO MENINGKAT
3. PAPARAN ZAT SPESIFIK (BENZIDINE, BETANAPHTHYLAMINE, AND 4-AMINOBIPHENYL)
4. PASIEN YANG MENERIMA TERAPI CYCLOPHOSPHAMIDE (CYTOXAN)
5. PHYSICAL TRAUMA TO THE UROTHELIUM INDUCED BY INFECTION, CALCULI AND INSTRUMENTATION.
6. GENETIK → *LOSS OF GENETIC MATERIAL ON CHROMOSOME 9*

Smith's General Urology, 17th edition

STAGGING

DESCRIPTION OF THE PRIMARY TUMOR STAGE (T STAGE), THE STATUS OF LYMPH NODES (N STAGE), AND METASTATIC SITES (M STAGE) → (AMERICAN JOINT COMMITTEE ON CANCER, 1997).

NODAL (N) STAGE :

NX – CANNOT BE ASSESSED

N0 – NO NODAL METASTASES

N1 – SINGLE NODE <2 CM INVOLVED

N2 – SINGLE NODE INVOLVED 2–5 CM IN SIZE OR MULTIPLE NODES NONE >5 CM

N3 – ONE OR MORE NODES >5 CM IN SIZE INVOLVED.

METASTASES (M) STAGE :

MX – CANNOT BE DEFINED

M0 – NO DISTANT METASTASES

M1 – DISTANT METASTASES PRESENT.

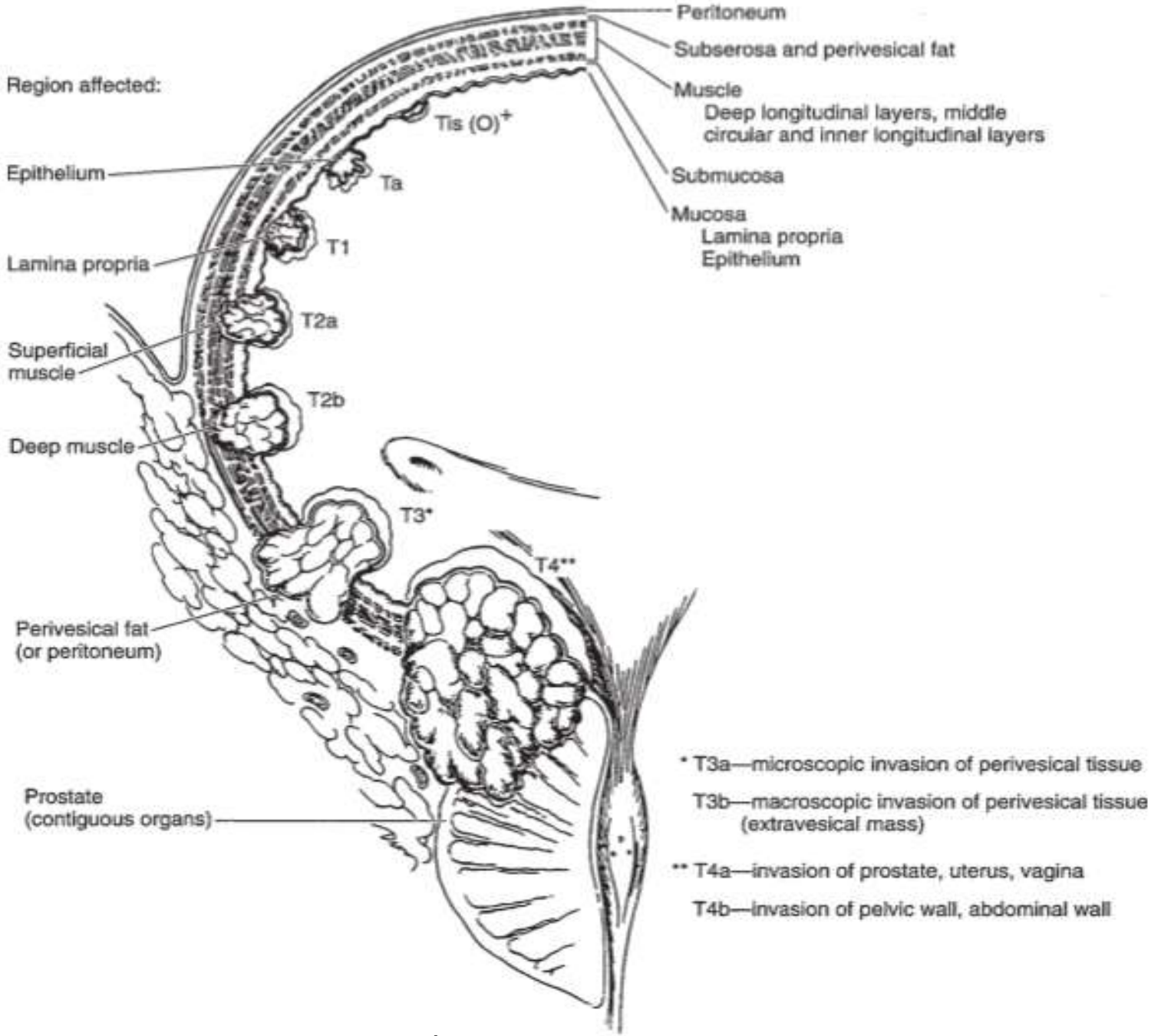


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Figure 20–1. Staging of bladder cancer.

HISTOPATOLOGIS

Variasi Histopatologi

- Normal Urothelium
- Papilloma
- Transitional Cell's Carcinoma (TCC)
- Non-Transitional Cell's Carcinoma (nTCC)
  - Adenocarsinoma
  - **Squamous cell carcinoma**
  - **Undifferentiated carcinomas**
  - **Mixed carcinoma**

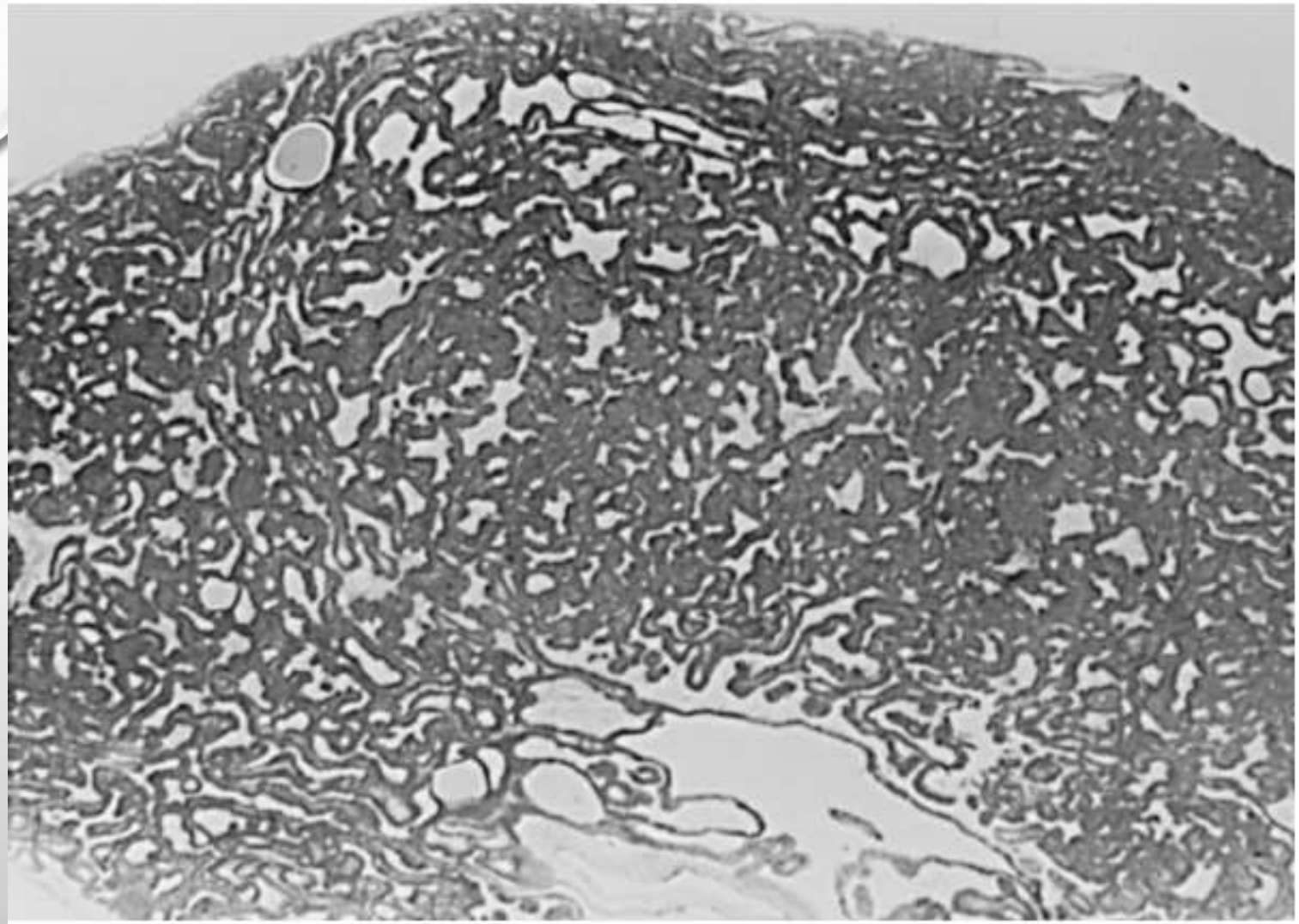

Figure 75-1 Inverted papilloma. *(From Mostofi FK, Sobin LH, Torloni H: Histological Typing of Urinary Bladder Tumors, no. 10. International Histological Classification of Tumors. Geneva, World Health Organization, 1973.)*

Ninety-eight percent of all bladder cancers are epithelial malignancies, with most being transitional cell carcinomas (TCCs).

TANDA DAN GEJALA

GEJALA

- **HEMATURIA** (85–90%) → *GROSS OR MICROSCOPIC, INTERMITTENT.*
- PADA PERSENTASE YANG LEBIH KECIL, SERING DIIKUTI OLEH GEJALA ***VESICAL IRRITABILITY*** (***FREQUENCY, URGENCY, AND DYSURIA***)
- **SYMPTOMS OF ADVANCED DISEASE** → BONE PAIN FROM BONE METASTASES OR FLANK PAIN FROM RETRO- PERITONEAL METASTASES OR URETERAL OBSTRUCTION.

TANDA

- PASIEN YANG MEMILIKI TUMOR INVASIF YANG CUKUP BESAR VOLUMENYA, DAPAT DITEMUKAN PENEBALAN DINDING BULI ATAU MASSA DAPAT DIPALPASI PADA PEMERIKSAAN BIMANUAL (PASIEN HARUS DIBIUS)
- *HEPATOMEGALY* DAN *SUPRACLAVICULAR LYMPHADENOPATHY* → TANDA METASTASIS
- *LYMPHEDEMA FROM OCCLUSIVE PELVIC LYMPHADENOPATHY (MAY BE SEEN OCCASIONALLY).*

PEMERIKSAAN LABORATORIUM

- TES RUTIN → HEMATURIA, PYURIA, AZOTERMIA, ANEMIA.
- SITOLOGI URIN
- MARKER LAIN→ BTA TEST (BARD UROLOGICAL, COVINGTON, GA), BTA STAT TEST (BARD DIAGNOSTIC SCI- ENCES, INC, REDMOND, WA), BTA TRAK ASSAY (BARD DIAGNOSTIC SCIENCES, INC), DETERMINATION OF URINARY NUCLEAR MATRIX PROTEIN (NMP22; MATRITECH INC, NEWTON, MA), IMMUNOCYT (DIAGNOCURE, MONTREAL, CANADA) DAN UROVYSION (ABBOTT LABS, CHICAGO, IL) → TES INI DAPAT MENDETEKSI PROTEIN SPESIFIK UNTUK CA BULI DI DALAM URIN.

IMAGING

TUJUAN:

- MENGEVALUASI TRACTUS URINARIUS BAGIAN ATAS
- JIKA TERDAPAT INFILTRASI TUMOR, UNTUK MENILAI KEDALAMAN INFILTRASI TUMOR PADA DINDING OTOT
- MENGETAHUI METASTASIS REGIONAL ATAU YANG JAUH

KONFIRMASI TUMOR BULI → **CYSTOSCOPY DAN BYOPSI**

PILIHAN IMAGING :

- INTRAVENOUS UROGRAPHY → HEMATURIA
- INTRAVENOUS PYELOGRAPHY
- COMPUTED TOMOGRAPHY (CT) UROGRAPHY → RADIOLUCENT FILLING DEFECTS PROJECTING INTO THE LUMEN (40-85 %)
- MAGNETIC RESCONANCE IMAGING (MRI) (50-90%)

ECAUSE INVASIVE BLADDER CANCERS MAY METASTASIZE TO THE LUNG OR BONES, STAGING OF ADVANCED LESIONS IS COMPLETED WITH CHEST X-RAY AND RADIONUCLIDE BONE SCAN

THE DIAGNOSIS AND INITIAL STAGING OF BLADDER CANCER → **CYSTOSCOPY AND TRANSURETHRAL RESECTION (TUR).**

TATA LAKSANA

INTRAVESICAL CHAEMOTHERAPY

- Mitocymin C → 40 mg in 40 cc of sterile water or saline given once a week for 6 weeks.
- Thyotepa → 30 mg weekly
- BCG

BEDAH

- TUR
- PARTIAL CYSTECTOMY
- RADICAL CYSTECTOMY (removal of the anterior pelvic organs: **in men**, the bladder with its surrounding fat and peritoneal attachments, the prostate, and the seminal vesicles; **in women**, the bladder and surrounding fat and peritoneal attachments, cervix, uterus, anterior vaginal vault, urethra, and ovaries. This remains the **"gold standard" of treatment for patients with muscle invasive bladder cancer)**

RADIOTERAPI → rradiation (5000–7000 cGy), delivered in fractions over a 5- to 8-week period

KEMOTERAPI

Table 20–2. Initial Treatment Options for Bladder Cancers.

Cancer Stage	Initial Treatment Options
Tis	Complete TUR followed by intravesical BCG
Ta (single, low-to-moderate grade, not recurrent)	Complete TUR
Ta (large, multiple, high-grade, or recurrent)	Complete TUR followed by intravesical chemo- or immunotherapy
T1	Complete TUR followed by intravesical chemo- or immunotherapy
T2–T4	Radical cystectomy Neoadjuvant chemotherapy followed by radical cystectomy Radical cystectomy followed by adjuvant chemotherapy Neoadjuvant chemotherapy followed by concomitant chemotherapy and irradiation
Any T, N+, M+	Systemic chemotherapy followed by selective surgery or irradiation

TUR, transurethral resection.

Smith's General Urology, 17th edition


THANK
YOU
GRACIAS
ARIGATO
SHUKURIA
DANKSCHEEN
JUSPAXAR
GOZAIMASHITA
EFCHARISTO
TASHAKKUR ATU
YAQHANYELAY
SUKSAMA
EKHMET
MEHRBANI
GRAZIE
KOMAPSUMNIDA
MAAKE
PALDIES
BOLZÏN
MERCI
TINGKI
BÏYAN
SHUKRIA
SPASSIBO
SNACHALHUYA
NUHUN
CHALTU
WABEEJA
MAITEKA
SPASIBO
DEMKADJA
NEHACHALHYA
ATTO
SAICO
MERASTAWHY
GAEJTHO
LAH
AGUYJE
FAKAAUE
TAVYAPUCH
MEDAWAGSE
DANKA
EKOJU
SIKOMO
MAKETAI
MINMONCHAR