Transurethral Resection of Bladder Tumours

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**Introduction**

As the bladder tumour is the second most common tumour of the genitourinary system, the transurethral resection (TUR) is an intervention, which is often performed [1]. At first manifestation, 70%–75% of bladder tumours are superficial and well differentiated. The recurrence rate is 70% and out of these 6%–10% show a progression with an eventual lethal outcome.

The TUR of bladder tumours (TUR-B) has a double goal: first the total removal of papillary lesions; second to determine the depth of invasion or clinical stage [1].

TUR-B is often the first step for residents in their endourological training. From the technical point of view, new developments for video systems, optics, electrosurgical instruments and high-frequency (HF) generators facilitate TUR-B procedures. Nevertheless, TUR-B is burdened with a significant number of complications.

**Indications**

Any suspicious area in the bladder.

**Contraindications**

- Absolute contraindications for programmable TUR-B are uncorrected coagulopathy and active urinary tract infection.

In case of severe bleeding of bladder tumours, there is a vital indication for TUR-B. At the same time, the coagulopathy must be corrected by the haematologist.

- Relative contraindications: anaesthetic contraindications.

**Preoperative Preparation**

- Stop aspirin 1 week before operation.
- Rule out and treat any urinary tract infection by urine culture and sensitivity.
- Thrombosis prophylaxis commencing the evening before the operation (low-molecular-weight heparin).
- Rectal enema is used the day before the operation.
- Intravenous single-dose antibiotics at induction.
- Counseling and informed consent.

**Anaesthesia**

- General anaesthesia with muscle relaxation.
- Spinal anaesthesia.

**Instruments**

All instruments (1–17) used are from Karl Storz, Tuttingen, Germany.

- Latest-generation electrosurgical generator (1)
- Digital video camera controller IMAGE1 (2) with 3-CCD digital pendulum camera head IMAGE1 P3 (3).
- 18” TFT-flat screen monitor with digital SDI input (4).
- High-intensity 300-W Xenon light source (5).
- Hopkins II Telescope 0° (6), 30° (7), and 70° (8).
- Working element, passive (9).
- Resectoscope sheath 24-Fr, single flow with central valve (10) or resectoscope sheath 26-Fr, continuous flow, rotatable (11) visual obturator (12).
- HF resection electrodes:
  - standard vertical loop (13).
  - Straight (longitudinal) loop (14).