Muscle-invasive bladder cancer

Muscle-invasive bladder cancer

The two primary radical treatment options for MIBC are radi cal cystectomy with urinary diversion or chemoradiotherapy . Whichever modality is employed, 5-year survival rates are approximately 60%. There is a move towar ds primary surgical treatment in most centres. The use of systemic chemotherapy given before (neoadjuvant) radical cystectomy has been shown to improve survival by about 5–7%. Newer immunotherapy approaches are being evaluated in the neoadjuvant and adjuvant setting; in particular, immune-checkpoint inhibitors with antibodies targeting the programmed cell death ligand 1 (PDL1) pathway are demonstrating promising results. Radical cystectomy and ileal conduit urinary diversion Those with poor bladder function, significant haematuria, upper tract obstruction, widespread CIS or factors that a ff ect successful radiotherapy (e.g. bilateral hip replacements, inflam matory bowel disease) are more suitable for radical cystectomy and pelvic lymphadenectomy . This is major surgery with a perioperative morbidity rate of up to 50%, and so patients Charles Pierre Denonvilliers , 1808–1872, Professor of Anatomy and later of Surgery , Paris, France. Denonvilliers' fascia is the fascial layer that separates the prostate and bladder from the rectum. Eugene Bricker , 1908–2000, American surgeon, described the separate anastomosis of each ureter to the ileal segment. David Mitchell Wallace , 1913–1992, urologist, St Peter's Hospital, London, UK, described the anastomosis of both ureters together followed by anastomosis to the ileal segment in one plate in 1966. surgery . Alternativ e drainage for urine is necessary after removal of the bladder. The standard procedur e is to perform an ileal conduit diversion. Male patients should be counselled about the onset of erectile dysfunction and anejaculation after the operation, although in some cases the nerv e supply for erec - - tile function can be preserved through careful dissection; they should also be told about alternative forms of urinary diver - sion, which include continent urinary diversions and orthot - opic bladder replacement. P atients should be seen by a stoma care therapist, who will ensure that the correct stoma site is chosen, avoiding skin creases to prevent leakage from the ileostomy . The abdomen is opened through a low er midline incision from the umbilicus to pubic symphysis. The liver and the retro- peritoneum are checked for evidence of metastases and the operability of the bladder is assessed. A bilateral pelvic lymph - adenectomy is perf ormed, removing external iliac nodes, internal iliac nodes and the nodes in the obturator fossae. The vessels passing to the bladder from the side wall of the pelvis are ligated and divided; the ureter s are then divided. The pos - terior ligaments extending from the pararectal area to the back of the bladder are ligated and divided, and the layer poste - - rior to Denonvilliers' fascia is opened. The endopelvic fascia is then divided on each side and the puboprostatic ligaments are divided. The dor sal venous complex is divided, and the ure - thra is then mobilised and divided. The ligaments lateral to the prostate are divided and the b ladder is removed. In women, the uterus and anterior vaginal wall need to be included.

Women must be counselled about the loss of ovarian and uterine func - tion. Laparoscopic and robotic cystectom y are increasingly becoming the standard of care with the aim of minimising - perioperative morbidity , but evidence for superiority of these techniques over the traditional open approach is awaited. An isola ted loop of ileum is then prepared on its own mes - entery , and continuity of the small bowel restored. The ureters are then implanted into the bowel either separately (Bricker) or as one plate (Wallace) and the ileostomy is created. Meticu - lous care must be taken to close all mesenteric windows, thus avoiding inter nal hernias (Figure 83.37). Alternative techniques of urinary diversion Alternative forms of diversion are most suitable for highly motivated patients with adequate renal and liver function who wish to avoid an external collection device. Orthotopic bladder An orthotopic bladder is the creation of a pouch (typically using small or large bowel) that is then anastomosed to the patient’s - urethra. Contraindications to an orthotopic bladder include widespread CIS and tumour in the prostatic urethra. Many di ff erent types of orthotopic bladder have been described but a large-capacity , low-pressure reservoir. A pouch is made from 57 /uni00A0 cm of detubularised ileum. The ureters are implanted into a proximal ‘chimney’ that acts as an antireflux mechanism, and the pouch is anastomosed to the urethra (Figure 83.37 Patients can void by relaxing the pelvic floor and straining, but CISC may be required to completely empty the pouch in 15–30%. Continent cutaneous diversion (heterotopic bladder substitute) For those who require urethrectomy , or in whom the urethra is non-functional, a continent cutaneous diversion can be performed. A Studer pouch can be made as described above. The appendix, or a separate section of ileum if the appendix is not available, is then anastomosed from the bladder to the umbilicus or right iliac fossa. The patient can then intermit tently catheterise this channel to drain the pouch. Ureterosigmoidostomy (Mainz II pouch) This option is popular in developing countries as there is no requirement for an external appliance or catheters. Patients require good anal sphincteric function. The sigmoid colon is detubularised and refashioned into a pouch into which the ureters are inserted (Figure 83.37). However, high rates of ascending UTI and increased risk of malignancy (associated with mixing of faecal and urinary streams), bowel frequency and urge incontinence have limited its use. Complications of urinary diversion The ileal conduit urinary diversion has the lowest rate of complications of all forms of urinary diversion. Risks include ureteroileal leak or stricture (5%), stomal complications such as stenosis or hernia (20%), upper tract dilatation (30%), recurrent UTIs and rarely metabolic complications (hyperchloraemic metabolic acidosis). Summary box 83.8 Bladder cancer /uni25CF /uni25CF /uni25CF /uni25CF /uni25CF /uni25CF /uni25CF Urs Studer , contemporary , Swiss urologist, described a neobladder pouch that is made of ileum. The Mainz II pouch describes the formation of a low-pressure sigmoid colon pouch into which both ureters are anastomosed. It is named after the city where the inventors of this technique worked.). - Complications of orthotopic or continent pouches include ureteroileal leak or stricture, urinary leak from the pouch, stone formation, UTIs, metabolic complications (hyperchloraemic metabolic acidosis) and rarely adenocarcinoma (5%). Stenosis and incontinence are the main complications of appendico - vesicostomy and up to 50% may require some form of revision surgery to the channel over a 5-year period. Radical external beam radiotherapy Radical radiotherapy is an option for very elderly or unfit patients who are unsuitable for radical cystectomy . Typically , treatment with 66 /uni00A0 Gy is administered in 30 fractions over 6 weeks. However, long-term urinary and bowel side e ff ects can impair quality of life and there is a risk of secondary malig - nancy and fistula.

The commonest presenting symptom of bladder cancer is haematuria Smoking and occupational exposure to certain chemicals are the commonest risk factors Bladder cancer can be non-muscle-invasive or muscle-invasive The management of NMIBC is TURBT, followed by intravesical mitomycin C or BCG depending on the risk strati /f_i cation The management of MIBC is neoadjuvant chemotherapy followed by radical cystectomy Options for urinary diversion include ileal conduit, orthotopic

bladder substitute, heterotopic bladder substitute or ureterosigmoidostomy The choice of diversion is dependent on patient factors, tumour factors and surgeon experience (b) (c) Figure 83.37 Techniques of urinary diversion of urine. (a) Ileal conduit; the ureters are spatulated and anastomosed to ileum; (b) ureterosig

moidostomy; (c) ileal neobladder with an antire /f_l ux long afferent limb.

chemotherapy and then chemoradiotherapy is being studied as an option for those with very localised MIBC, but this remains an option for only a very select group.

Revision #1
Created 2025-12-31 15:30:12 UTC by Omar Ayman
Updated 2025-12-31 15:30:12 UTC by Omar Ayman