

Anesthesia for urologic surgery

Problems:

- 1- Most patients are geriatrics, with renal & heart diseases tumours
- 2- Extensive resection and reconstruction carry high morbidity and mortality
- 3- Position: nephrectomy and lithotomy affects respiration and circulation
- 4- Pneumothorax following rib resection
- 5- Repeated anesthesia: cystoscopy or staged reconstruction
- 6- Electrocautery hazards
- 7- Renal blood flow:
 - Good in spinal provided no hypotension
 - Methamphetamine increases renal blood flow
 - Adrenaline and noradrenaline decrease renal blood flow
 - Halothane has minimal effects

Anesthetic management:

TUR of bladder and prostate:

Problems: Patient is geriatric

Lithotomy position

Irrigation solutions: Best use sorbitol 3%

Ordinary water leads to: hemolysis,
contamination,
water intoxication

Complications:

*Water intoxication: Signs: increase BP and decrease PR, bleeding, pulmonary edema
(frothy sputum and crepitations), cerebral edema(convulsions)

Treatment: ET, Oxygen, Positive pressure ventilation

Venous tourniquets in all extremities

Stop operation

Change posture to headup position

Diuretics and digitalis

*Blood complications:

Bleeding (loss of blood)

Hyper fibrinolysis due to release of fibrinolysins, treated by epsilon aminocaproic acid
(cyclocaprone)

DIC: tissue material goes into blood treated by heparin, cyclocaprone

* Cautery

* Perforation of the bladder

* Hypothermia

Anesthesia for TUR of the prostate:

1- spinal: sensory fibers to the bladder and prostate leave spinal cord at level T10 so spinal should be high

Advantages: * perforation of the bladder leads to pain
*absorption of fluid leads to restlessness

2- General anesthesia.

Anesthesia for uremic patient: as for renal transplantation.

Cautions: - Renal blood flow should be maintained
- Irrigating leads to hyponatremia
- Succinylcholine leads to hyperkalemia
- Gallamine is not used as it is entirely excreted by kidney

Induction: thiopentone

Intubation: scoline if serum potassium is normal or you can use long acting relaxant

Maintenance: O₂, N₂O, fentanyl, pancuronium, controlled ventilation.

Anesthesia for cystoscopy and/or ascending:

- Topical anesthesia + sedative drugs: for women and old men
- General anesthesia for adult men

Problem: penile erection which leads to difficult insertion of cystoscope. Treated by deep GA, ketamine, trimethaphane, amylnitrate. This problem does not occur under spinal anesthesia.

Circumcision:

- No vasoconstrictors.....lead to slough of the skin
- Better under general anesthesia

Paraplegic and quadriplegic for cystoscopy or TUR;

Above T7 lesions:

Due to distension of the bladder there will be autonomic hyperreflexia which results in sudden hypertension, bradycardia, flush face, sweating, headache.

Due to reflex vasoconstriction below the level of injury leads to increase BP leads to affect on aortic arch and carotid sinus baroreceptors leading to bradycardia which with the increase in BP leads to heart failure, CVA retina bleeding.

Treatment: Trimethaphan (arfonad) which is a short-acting ganglionic blocking agent, used as trimethaphan camsylate as an antihypertensive to produce controlled hypotension during surgery and for the emergency treatment of hypertensive crises and pulmonary edema due to hypertension; administered intravenously.

No scoline given to these patients as it increase serum potassium.