

TUR syndrome developing under spinal anesthesia

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Transurethral prostate resection (TUR) opens large venous network and allows irrigation fluid to be absorbed into systemic circulation. The absorption of 2000 ml or more fluid causes a syndrome known as TUR-P syndrome and presents with head ache, restlessness, confusion, cyanosis, dyspnea, arrhythmia, hypotension and convulsions. Regional anesthesia enables earlier recognition and faster and more efficient treatment of TUR syndrome.

Case: TUR-P operation was planned in a patients without any known disease and diagnosed with benign prostate hypertrophies (BPH) and bilateral hydronephrosis. A 63 years old, ASA 1 patient under spinal anesthesia whose

Perioperatively, surgical team used 13 units of 3.000 ml 5% mannitole irrigation fluid (39000 ml). At 105th minute of operation, agitation, cyanosis, wheezing, tremor, tachycardia, hypertension and then hypotension developed. In blood gases obtained simultaneously, Na was found to be 101 mEq/l, K: 3.3 mEq/l, pH: 7.14, pO₂: 93 mmHg, pCO₂: 73 mmHg, HCO₃: 19 mmol/l, BE: -5.7 and Hgb: 10 gr/dl. In view of these results, TUR-P syndrome was considered and diuretic administered. As there was no place in postoperative intensive care, the patients was transferred to recovery. The patient's consciousness was open and he had agitations. Lung sounds were spasmodic and he had tachycardia. Na was 101 mEq/l and 3% saline was infused at the rate of 100 ml/h. Upon the development of hypotension, dopamine infusion was instituted at the rate 5-10 mcg/kg/min. In the control two hours later, Na value was 112 mEq/l. In control values, dilutional thrombocytopenia was detected. The number of thrombocytes fell as low as 77000 and upon the administration of treatment, thrombocyte numbers returned to normal with the establishment of intravascular fluid balance.

Discussion: The probability of masking of TUR-P syndrome or bladder perforation symptoms is lower with regional anesthesia. In awake patients, the evaluation of mental status may catch the first symptoms of TUR-P syndrome and bladder perforation. The symptoms of TUR-P syndrome depends on excessive fluid loading in circulation which is termed as water intoxication.

If the cause is hypervolemia, hyponatremia may usually be corrected with fluid restriction and diuretics (Furosemid, 10-20 mg iv) hyponatremia symptoms do not develop until. Serum Na concentration drops under 120 mEq/l. After TUR-P operations, serum sodium concentrations may drop under 125 mEq/l at a rate of 15%, and of these 40% is associated with mortality.

Conclusion: In conclusion, the most important aspect of the treatment of TUR-P syndrome is early diagnosis. Loop diuretics may be used for the elimination of excess fluid. Regional anesthesia methods make it possible to recognize TUR-P syndrome early and to treat it rapidly and efficiently. In this patient, the administration of spinal anesthesia, early diagnosis, and initiation of judicious treatment without losing time after surgery is rapidly terminated prevented the condition from progressing to death

Biography

Ozkan Onal has completed his medical education from Ankara Gazi University Medical School and he has completed his anesthesia training from Ankara Hacettepe University Medical School and he is working in Ankara Yuksek Ihtisas training and educational hospital. He has published more than 15 papers about anesthesia.

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