Case report

TURP syndrome: A rare case report from Syria

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ABSTRACT

Introduction: Transurethral resection of prostate (TURP) syndrome is a systemic complication of transurethral resection of the prostate or bladder tumors, caused by excessive absorption of electrolyte-free irrigation fluids [1].

This syndrome may potentially cause neurologic disturbance, pulmonary edema, cardiovascular compromise, and death. Normal saline cannot be used as irrigation solution with conventional monopolar resection. Glycine solution is almost universally used as an irrigation solution in traditional therapeutic endoscopic urologic procedures [2].

TURP Syndrome has become a rare event in recent years, with incidence rates between 0.78% and 1.4% [3].

We report a rare case of TURP syndrome in a 66 years old patient that happened after 1 h of surgery. Early recognition of the condition led to full recovery.

This case report was prepared in accordance with the SCARE guidelines [4].

1. Introduction

Transurethral resection of prostate (TURP) syndrome is a systemic complication of transurethral resection of the prostate or bladder tumors, caused by excessive absorption of electrolyte-free irrigation fluids [1].

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TURP Syndrome has become a rare event in recent years, with incidence rates between 0.78% and 1.4% [3].

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2. Case presentation

A 66 years old male presented to our clinic with seven months of lower urinary tract symptoms. Ultrasound showed prostate weight 90 gr. The patient had no other diseases. After taking patient consent, we decided to perform transurethral resection of prostate (TURP). On operation day, the patient had the laboratory values: 11 × 10\textsuperscript{5} white blood cells, 12 × 10\textsuperscript{5} HGB, 320 × 10\textsuperscript{5} PLT, 1.1 mg/dl creatinine, 20 mg/dl urea, 102 mg/dl Glucose, 134 mmol/l Na, and 5 mmol/l K. He was positioned on lithotomy posture. We started the operation under spinal anesthesia. During the operation, the blood pressure was 120/70 mm/Hg, pulse 72/bpm, Spo2 97%. He was given 1.5 l of normal saline via intravenous. We used 20 l of 1.5% glycine during operation. We needed 65 min to complete the surgery. The course of the surgery was unremarkable. One hour after surgery, the patient developed confusion, pinpoint pupil, hypoxemia (spo2 83%), hypertension 170/95 mm/Hg, and bradycardia (58 bpm). Lung and heart auscultations were normal. The diagnosis was TURP syndrome. Immediately, the patient was infused by 500 ml of normal saline (0.9). In addition, he was given nebulization with salbutamol. A blood specimen was sent to the laboratory. Chest x-
ray and ECG were normal. Laboratory findings showed hypernatremia (121 mm/l) and increased potassium level (6.3 mm/l). Finally, he was loaded with 300 ml of saline 3% over the next 6 h. After 12 h, we had normal electrolyte values (137 mmol/l, and 4 mmol/l of K). On next day, we discharged our patient with a good state.

3. Discussion

Transurethral resection of the prostate (TURP) is the most common surgical procedure performed on male patients over 60 years of age. Irrigation of closed body spaces may lead to perioperative fluid and electrolyte shifts [5].

Glycine 1.5% solution is commonly used for TURP because it is inexpensive, nonconductive, and only slightly hypoosmolar, reducing the risk of burn injury or significant hemolysis [1].

TURP Syndrome is a clinical condition characterized by neurologic and cardiovascular disturbances, that results from excessive absorption of electrolyte-free irrigation fluids, through the opened prostatic venous channels (intravascular) and the perforated prostatic capsule (extra-vascular) [6].

The diagnosis of TURP syndrome should be rapid, so, the spinal anesthesia is considered to be the anesthetic technique of choice, allowing early detection of neurological symptoms (patient awake). The treatment of severe TURP syndrome is based on correcting electrolytes and making patient hemodynamically stable [1].

Our patient had TURP syndrome after 1 h of TURP operation. He developed neurological and vascular symptoms. We immediately infused normal saline intravenously. Laboratory tests after surgery showed a significant raise in potassium levels and a decrease in sodium levels. Treatment was mainly directed to regain the normal values of blood electrolytes. We administrated intravenous hypertonic saline 3%. We monitored vital signs, neurological symptoms, and consciousness. After 6 h, we repeated the blood tests. Laboratory findings showed normal values of both sodium and potassium levels. On the next day, we discharged our patient after full recovery.

4. Conclusion

We presented a rare but dangerous case about TURP syndrome. The main point is to diagnose this condition earlier as soon as possible. Treatment is consisted of normalization of the electrolytes levels.

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