

A Case of Acute Renal Injury After Arteriosclerosis Obliterans Operation Treated by Blood Purification

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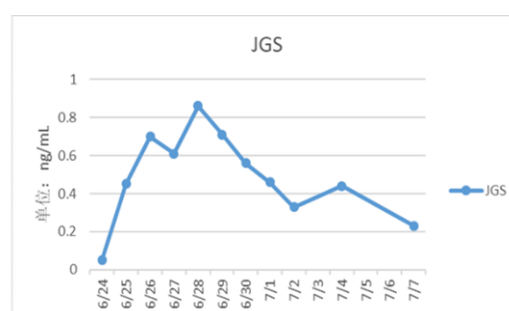
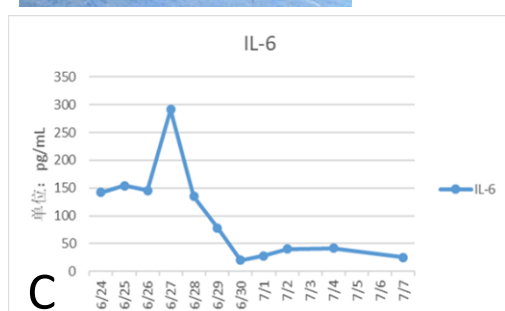
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Objective: To evaluate the efficacy of blood purification therapy in patients with acute kidney injury (AKI) after recanalization of lower limb arteriosclerosis obliterans.

Method: A 55-year-old male presented with intermittent claudication of both lower limbs for 20 years, aggravated for more than 2 months, and was diagnosed with lower limb arteriosclerosis obliterans (ASO). On June 24, the patient underwent "abdominal aortofemoral artery bypass + femoral arterioplasty + lower limb arteriography" under general anesthesia, and was given blood purification treatment due to acute renal impairment caused by ischemia-reperfusion injury after operation. The decision was made to perform a hemoperfusion and hemofiltration treatment, JaFron HA380 of hemoperfutor and Baxter M150 of hemofilter. The changes of myoglobin, creatinine, urine volume, urine color and inflammatory factors before and after treatment were recorded and compared.



Results: On the first postoperative day, Mb > 2000 ug/l; urine output: 30-50ml/h; urine color was normal; Cre: 248 mmol/l. After 6 hours of hemoperfusion (HP) treatment, Mb: 1800 ug/l, urine volume: 50-80 ml/h. On the second postoperative day, Mb > 2000 ug/l; urine output: 30 – 50 ml/h, dark urine with soy sauce color (Figure A), Cre: 340 mmol/l. Blood purification was continued, which was stopped after 6 hours of perfusion, followed by filtration therapy, HP once daily for 6 hours, until myoglobin was less than 2000 ug/l and creatinine was no longer elevated. On July 1, the patient had normal hemogram, decreased inflammatory factors (Figure C), Mb: 1700 ug/l, urine volume > 200 ml/d, normal urine color (Figure B), Cre < 200 mmol/l. Blood purification treatment was stopped.



Conclusion: 1. The damage of ischemia-reperfusion to distant organs should be fully assessed, and staged surgery can be considered for chronic ischemia to reduce the risk of AKI; 2. Postoperative urine volume, urine color, myoglobin and other indicators should be closely monitored, once every 4-6 hours, early intervention should be performed to prevent further progression of the disease; 3. Once the occurrence of AKI is determined, blood purification treatment should be performed as soon as possible to remove harmful substances and prevent irreversible renal impairment; 4. Appropriately increase the frequency of hemoperfusion according to the patient's condition and be long in time.

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