Life-threatening Rhabdomyolysis Complicating Surgical Reperfusion of Peripheral Arterial Occlusive Disease — A Case Report and Literature Review

Chih-Hsuan Yen, 1 Ping-Ying Lee, 1,2 Charles Jia-Yin Hou, 1 Yu-San Chou, 1 Cheng-Ho Tsai 1

Rhabdomyolysis is a rare complication following successful reperfusion of occluded peripheral arteries. Acute renal failure frequently develops in these patients, and it carries a high mortality rate. We report a 78-year-old female with near-total occlusion of bilateral femoral arteries. After successful femoral-popliteal artery bypass, she developed rhabdomyolysis with acute renal failure. Despite intensive support and treatment, she died of multiple-organ failure.

Key Words: Rhabdomyolysis • Acute renal • Failure peripheral • Arterial occlusive disease

INTRODUCTION

Rhabdomyolysis, compartment syndrome, and crush syndrome represent a spectrum of the same disease,1,2 which may be induced by numerous factors, including alcoholism, crush injury to a limb, overuse of skeletal muscle, heat, viral infections, metabolic disorder, myopathies, drugs, toxins, and hyperkalemia.1 Rhabdomyolysis is a rare complication after successful bypass surgery for peripheral vascular disease. Acute myoglobinuric renal failure may further complicate the situation, with catastrophic results. In a recent study of crush injuries, acute renal failure developed in 16.5% of patients with rhabdomyolysis, and 42.3% of them died.3 We report a case of severe rhabdomyolysis with acute renal failure after successful peripheral vascular surgery.

CASE REPORT

A 78-year-old female suffered from right leg swelling, pallor, and pain and was not able to move her leg for 2 weeks prior to admission. The patient had a history of hypertension treated with amlodipine for 2 years and type 2 diabetes mellitus for 3 years. She did not smoke. Toes of both legs were cyanotic and cold, and dorsalis pedis pulses were weak bilaterally.

Selective angiographic examination (Figure 1) revealed near-total occlusion of several segments of bilateral femoral arteries. She underwent a femoral-popliteal bypass with 10 mm ringed vascular grafts and bilateral femoral artery endarterectomy. After surgery, her legs became warm and strong dorsalis pedis pulses were palpable bilaterally. She was treated with intravenous heparin and prostaglandin E1 postoperatively. Neither hemodynamic compromise nor hypoglycemia were found during and on the first day after the surgery.

Three days after surgery, the patient suddenly became dyspneic and oliguric. Her urine was dark red in