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말기 신부전 환자에서 혈액 투석중에 발생한 척수 경막외혈종

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Spontaneous Spinal Epidural Hematoma in an End-Stage Renal Failure Patient on Maintenance Hemodialysis

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Introduction: Cerebrovascular events, as well as cardiovascular diseases are important causes of morbidity and mortality in dialysis patients. Although epidural hematomas seen in this group of patients are generally associated with head trauma, spontaneous spinal epidual hematoma is extremely rare. Hemodialysis patients are at an increased risk of bleeding due to the platelet dysfunction caused by uremia and the use of anticoagulants during dialysis. There also can be changes in the serum and cerebrospinal fluid osmolality which can result in pressure fluctuations. It is possible that such changes may cause vascular damage and bleeding during hemodialysis. We report an ESRD patient who presented with spinal cord compression due to spontaneous epidural hematoma of cervical spine during hemodialysis.

Case: A 43-year-old man with ESRD due to diabetic nephropathy on maintenance hemodialysis for 10 months was admitted to our hospital for quadriplegia which developed abruptly during hemodialysis session. He has suffered from diabetes and hypertension for more than 20 years. There was no recent history of head trauma or minor injury on his neck. On neurological examination, his consciousness was clear but he had motor weakness on both upper and lower extremities (grade 0-1/5). Pupils were bilaterally reactive. Blood pressure was 154/95 mmHg, heart rate: 70/min, respiration rate: 20/min, and body temperature: 36.2℃. On complete blood count, WBC was 7,100/m^3, hemoglobin 11.0 g/dL and platelet 179,000/μL. Partial thromboplastin time was 24.3 s (reference range 22.4-40.4 s), a prothrombin time 10.6 s (reference range 11.0-15.0 s), INR 0.87 (reference range 0.85-2.00). Blood urea nitrogen and serum creatinine levels were 37.6 and creatinine 6.6 mg/dL, respectively. Serum sodium, potassium and chloride were 135, 6.9 and 102 mEq/L. Serum calcium and phosphorus levels were 10.0 and 3.7 mg/dL, respectively. An urgent contrast enhanced C-spine MRI and cervical CT scan showed hyperacute stage epidural hematoma on anterior epidural space of the cervico-thoracic spinal canal, extending from C1 to T5 with compressive myelopathy on C5-C6 level. He underwent an emergency surgery (Lt anterior approach C4-6 discectomy and C5 corpectomy with hematoma removal) and high dose of steroid was administrated. Motor weakness of both extremities improved and he was discharged 1 month after surgery. He was asymptomatic and follow-up MRI demonstrated complete resolution of hematoma 3 months after surgery.

Key Words: 경막외혈종, 혈액투석
Epidural hematoma, EDH, Hemodialysis