

호흡주기에 따라 역동적으로 변하는 상대정맥의 대동맥 궁에 의한 압박에 대한 증례

충남대학교병원 신장내과

전홍재, 김유형, 김예진, 정사라, 최대은, 나기량, 이강욱

A Case of SVC Dynamic Obstruction Due to Aortic Arch Compression by Respiration Cycle

Hong Jae Jeon, Yoo Hyung Kim, Ye Jin Kim, Sarah Chung, Dae Eun Choi
Ki Ryang Na, Kang Wook Lee

Chungnam National University Hospital

Introduction: Recirculation is an important issue in hemodialysis patients as increased percent recirculation causes decreased dialysis delivery of patients. Hemodialysis access recirculation occurs when dialyzed blood returning through the venous needle reenters the extracorporeal circuit through the arterial needle, rather than returning to the systemic circulation. It commonly suggests the presence of access stenosis, and we can know the presence of that by increased venous pressure on dialysis. But sometimes, this stenosis may be not fixed, and missed. We report a case of 63-year-old woman transferred to our hospital due to increased venous pressure.

Case: A 63-year-old female presented with high venous pressure on dialysis. The doctor's note said that her venous pressure was increased up to 300 mmHg. She had been diagnosed Type 2 diabetes 20 years ago, and begun dialysis 2 years ago due to diabetic nephropathy. She had received subtotal gastrectomy for stomach cancer 10 years ago. On physical examination upon admission, the patient's vital signs were normal. The bruit was heard continuously, softly, and low-pitched, and thrill palpated continuously and softly on the AV fistula. Complete blood cell counts showed a white blood cell count of 7,110/ μ L, a hemoglobin level of 11.0 g/dL, a platelet count of 194,000/ μ L. Serum biochemistry showed a C-reactive protein level of 0.8 mg/dL, urea nitrogen of 19.6 mg/dL, creatinine of 3.01 mg/dL. Angiography was ordered for suspected venous thrombus, but it was unremarkable. Venous pressure was all measured to be within normal limits on dialysis after angiography. During previous hospitalization, we had already known that there was focal extrinsic compression at his left brachiocephalic vein between the ascending aorta and manubrium spur. Although high venous pressure was not documented on dialysis, it is possible that venous pressure was increased between measurements. We presumed that increased venous pressure might be due to venous dynamic obstruction influenced by respiration cycle. We planned to calculate venous pressure difference between inspiration and expiration and percent recirculation to prove that. On 6th admission day, we found the reminder of the venous pressure through respiration cycle, and it was 10-17mmHg suggesting the presence of dynamic obstruction. Percent recirculation was also calculated, but its value was unreliable due to inappropriate misplacement of needles. She was discharged on 9th admission day. And when she re-visits our dialysis center, percent recirculation was recalculated. The result was 7.6 % indicating reentry of dialyzed blood into the arterial line, and the presence of access recirculation was proven in our patient.

Key Words: 상대정맥 압박
Percent recirculation