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Higher intracystic ADH levels than those of blood in three ADPKD patients who underwent robot-assisted cyst marsupialization

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Case Study: Autosomal dominant polycystic kidney disease (ADPKD) is the most common hereditary renal disease. In ADPKD, the renal function decreases and the mass effect occurs as the total kidney and liver volume increases. Fluid secretion in the cyst is caused by abnormal stimulation of the V2 receptor due to cyclic adenosine monophosphate (cAMP) activity. The hormone ADH, which is also called *arginine vasopressin*, is known as a causative agent of cyst growth. To reduce the mass effect in a polycystic kidney, cyst sclerotherapy, arterial embolization, cystectomy or cyst marsupialization, nephrectomy, etc. have been attempted. In this study, the cystic ADH levels and the simultaneous whole blood ADH levels in three patients with symptoms due to mass effect were compared.
A 64-year-old female patient, a 41-year-old male patient, and a 62-year-old female patient underwent robot-assisted cyst marsupialization surgery to improve mass effects such as back pain and dyspepsia. The intracystic ADH level was measured in several cysts that were burst during the operation of each patient and, at the same time, was compared with the ADH level drawn from the blood. The ADH levels in the whole blood of the patients were 6.59, 3.01, and 0.9, respectively, and the ADH levels tested in the cysts were 18-36, 24-38, and 9-16, respectively, which were 3-6 times higher than the ADH levels in the whole blood.
The intracystic ADH levels found in the operations were much higher than the ADH levels in the blood. Although the ADH level can be affected by factors such as stress and dehydration; As in the cases of the CA19-9 excreted from the infected liver cyst, when cystic fluid leaked into the blood, the increase in the ADH level from the baseline is likely to be used as a marker of kidney cyst infection.