Spontaneous Renal Subcapsular Hematoma in a Patient on Continuous Ambulatory Peritoneal Dialysis

K.	Kazuyoshi	Okada
S.	Susumu	Takahashi
Y.	Yuji	Nagura
M.	Michinobu	Hatano

2nd Department of Internal Medicine, Nihon University School of Medicine, Tokyo, Japan

Dr. K. Okada, 2nd Department of Internal Medicine, Nihon University School of Medicine, Itabashi-ku, Tokyo 173 (Japan)

Dear Sir,

Renal bleeding leads to intrarenal, subcapsular, perir-renal or pararenal hematoma [1].

Concerning spontaneous subcapsular hematoma in dialyzed patients, there have been only 4 cases in hemodialyzed patients as far as we know [2–5], suggesting that patients on hemodialysis (HD) are at greater risk of developing spontaneous bleeding episodes than patients on continuous ambulatory peritoneal dialysis (CAPD). We describe here a case of spontaneous subcapsular hematoma on CAPD.

A 45-year-old female with mitral regurgitation and atrial fibrillation was started on CAPD on July 9, 1986, because of chronic renal failure due to chronic glomerulonephritis. On May 20, 1988, the patient was admitted to hospital due to an episode of macrohematuria accompanied by severe left flank pain and lumbago despite a lack of any traumatic event. Her blood pressure was 140/70 mm Hg, her pulse was 80/min and irregular, and her temperature was 36.5°C. Marked tenderness was present in the left costovertebral angle radiating to the left side. Urinalysis demonstrated innumerable white blood cells and red blood cells per high-power field. The bleeding time, prothrombin time and partial thrombo-plastin time were normal. Two of four cytologic examinations of the urine revealed class III. Cystoscopic examination disclosed a normal mucous membrane of the bladder and blood oozing from the left ostium ureteris. Computerized tomography (CT) demonstrated low-density areas in agreement with the cysts on ultrasonography and an isodensity mass in the left pelvis. Retrograde pyelography indicated defects which did not move with changes of position in the left pelvis and ureter. The results of these examinations suggested a renal pelvis or ureter tumor, and left nephrectomy was therefore performed on June 27, 1988. The excised kidney (fig. 1) was surrounded by a subcapsular hematoma and the pelvis

Fig. 1. The removed kidney surrounded by a subcapsular hematoma (arrows) and accompanied by cysts. The pelvis was filled with clotted blood and no connection existed between the hematoma and cysts.

was filled with clotted blood. No tumor was microscopically seen. A few small cysts were present in the parenchyma but they had no connection with the hematoma. Accordingly, a

diagnosis of spontaneous renal subcapsular hematoma was made. The patient was able to continue on CAPD from the day of operation and was discharged on July 13, 1988.

Although CT is a valid method for the diagnosis of renal subcapsular hematoma, we failed to diagnose it in the present case. This suggests that a renal hematoma, which was very small in size at the time of performing CT, underwent a gradual increase subsequently.

Table 1 summarizes details of the cases of spontaneous renal subcapsular hematoma which have been reported previously in dialyzed patients [2–5]. They all involved

238

Okada/Takahashi/Nagura/Hatano

Table 1. Spontaneous renal subcapsular hematoma in dialyzed patients

patients on HD. Patients on HD are always at some risk of developing spontaneous bleeding episodes in various parts of the body. Such bleeding is related to several factors, including heparinization during HD, ongoing anticoagulant therapy, functional platelet abnormalities of uremia and platelet-membrane interactions [6].

Regarding the cause of subcapsular hematoma, the details remained unclear. But there was a possibility that the hematoma occurred by renal infarction following thrombus formation due to atrial fibrillation.

References

Pollack HM, Popky GL: Roentgenographic manifestations of spontaneous renal hemorrhage. *Radiology* 1974;110:1–6.

Tuttle RJ, Minielly JA, Fay WP: Spontaneous renal hemorrhage in chronic glomerular nephritis and dialysis. *Radiology* 1971; 98:137–138.

Tsai SY, Shimizu AG: Spontaneous perirenal hemorrhage in patients on hemodialysis. *Urology* 1975;5:523–525.

Pak K, Tomoyoshi T, Nishimura N: Spontaneous renal subcapsular hematoma in a patient undergoing hemodialysis. *J Urol* 1986;135:117–119.

Tielemans CL, Collart FE, Hooghe L, et al: Renal hematoma in a patient undergoing hemodialysis. *Arch Intern Med* 1983; 143:1623–1625.

Blagg CR: Acute complications associated with hemodialysis; in Maher JF (ed): *Replacement of Renal Function by Dialysis*. Dordrecht, Kluwer Academic Publishers, 1989, pp 750–771.