Spontaneous perirenal hematoma is relatively uncommon but may be life threatening. There are some challenges in early diagnosis due to the lack of specific presentations. We report a case of spontaneous perirenal hematoma in a patient who had histories of systemic lupus erythematosus, hypertension, and uremia with hemodialysis, and initially presented with non-specific flank pain. Dizziness and unstable vital signs were noted in the emergency room. Computed tomography and abdominal ultrasonography revealed a large perirenal hematoma over the left retroperitoneal cavity. The patient received conservative treatment without surgical intervention and had an uneventful recovery.

Key Words: spontaneous perirenal hematoma, SLE, uremia, hemodialysis


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CASE PRESENTATION

A 30-year-old man came to our emergency room with dizziness and left flank pain for 3 days. He had a history of hypertension, SLE, and uremia in the oliguria status. He had received regular hemodialysis for 6 years for lupus nephropathy. A calcium channel blocker and β-blocker were used to control blood pressure. There was no history of recent trauma.

Physical examination revealed pallor and relatively unstable vital signs (blood pressure, 120/80 mmHg; pulse, 82 beats/min). The abdomen was soft but knocking pain was found over the left costovertebral angle. There was no obvious ecchymosis or palpable mass over the left flank. Complete blood count revealed low serum hemoglobin (7.0 g/dL) and hematocrit (21.9%), and a slightly decreased platelet count (131,000/μL). Abdominal ultrasonography showed a massive, left perirenal hypoechoic collection and thin renal cortex with multiple cyst formation.

Non-contrast enhanced computed tomography (CT) revealed a large left perirenal hematoma (10 x 8 x 6 cm). The left kidney was anteriorly displaced and externally compressed. There were multiple cystic lesions of varying...
Spontaneous perirenal hematoma was first described by Wunderlich, in 1856 [1]. It is a relatively uncommon entity with non-specific clinical presentations, uncertain etiology, and life-threatening potential.

In a literature review in 1975, McDougal et al found that in 78 patients, the most common etiology was tumor hemorrhage (57.7%), followed by vascular disease (17.9%) [2]. Cinman et al in 1985 found that tumor hemorrhage (63%) and vascular disease (26%) were common etiologies in 27 patients [3]. In 2002, Zhang et al analyzed 165 patients reported between 1985 and 1999, and found spontaneous perirenal hematoma caused by tumor bleeding in 61% and by vascular disease in 17% [4].

Spontaneous perirenal hematomas caused by SLE, chronic hemodialysis, or polycystic kidney disease is relatively rare and few cases have been reported [5]. Sudden flank pain without a history of trauma is the most common clinical presentation. Patients might also present with other features, such as palpable mass, hematuria, anemia, fever, or hypovolemic shock. Ultrasonography is extremely valuable for the rapid identification of renal disease. However, it is difficult to rely on this alone for diagnosis and, in many instances, perirenal hematoma has been misdiagnosed as a renal tumor or an abscess. Abdominal CT is more accurate for diagnosis. Hellström et al reported that CT had a sensitivity of 71% for the diagnosis of a renal tumor in perirenal hematoma [6]. Zagoria et al reported the correct diagnosis was made in 80% of cases where the renal mass was visible [7]. However, detection of a mass by CT in the presence of spontaneous perinephric hemorrhage is limited, without intravenous contrast material. Hence, when CT is unavailable, magnetic resonance imaging (MRI) may be an alternative. Angiography is also useful for the diagnosis of vascular disease associated with spontaneous perirenal hematoma, especially when emergency embolization is required.

Several authors propose nephrectomy or exploratory surgery in all cases of unexplained spontaneous perirenal hematoma and normal contralateral kidney, because of the high probability of small clinical, non-apparent underlying malignancy. However, in the series of Zhang et al, malignancy was only present in 43% of patients undergoing total nephrectomy, while 57% of those who underwent nephrectomy had a normal kidney or benign disease [4]. In some cases of spontaneous perirenal hematoma, even those associated with a benign underlying disease, nephrectomy is still necessary, especially when the hemodynamic status is unstable after conservative treatment or arterial embolization. However, emergency nephrectomy for diagnostic or prophylactic purposes in malignancies is over-treatment and should be avoided [8].

In our case, the history of SLE, uremia, hemodialysis with heparin administration, and atrophied kidney with polycystic change were risks for hemorrhage. Spontaneous perirenal hematoma was diagnosed by ultrasonography and CT. The images did not reveal a renal mass. The patient underwent conservative treatment without surgical intervention and had good recovery. Long-term observation with serial CT or MRI seemed appropriate in our case, to allow for immediate detection of any small tumor that had

**Figure.** Non-contrast enhanced computed tomography shows a large left perirenal hematoma. The left kidney is anteriorly displaced and externally compressed. There are multiple cystic lesions of varying sizes in both kidneys and no hydrouretero-nephrosis is evident.
previously been hidden. Elective nephrectomy might be considered if bleeding recurs. Currently, the patient is on hemodialysis.

CONCLUSIONS

Early accurate diagnosis of spontaneous renal hemorrhage requires both detailed clinical examination and radiologic studies. We recommend that a careful survey of spontaneous perirenal hematoma should be considered, especially in patients with co-existing morbidities with the risk of hemorrhage. The principles of management are similar to those for spontaneous renal hemorrhage caused by trauma if imaging studies do not show a renal mass. Emergency nephrectomy is unnecessary and should be avoided in patients with stable hemodynamics. However, because of the high possibility of an underlying malignancy in patients with spontaneous perirenal hematoma, long-term follow-up and observation with CT or MRI is recommended, especially for patients who receive conservative treatment.

REFERENCES

自發性腎臟出血 — 病例報告

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三十歲男性過去病史為高血壓，紅斑性狼瘡，尿毒症併已洗腎六年，於三天前突發
左側腰痛，頭暈，於急診就診時呈現面色蒼白，生命徵象不穩，實驗室檢查結果為
貧血，左腰脢未出現淤青或摸到腫塊，腹部超音波和電腦斷層顯示兩側腎臟多囊性
病變和左側腎臟出血，病患未採手術治療，而經保守療法後病患恢復良好。

關鍵詞：自發性腎臟出血，紅斑性狼瘡，尿毒症，血液透稀
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