CASE REPORT

Renal cell carcinoma with proliferative lupus nephritis

Koh-Wei Wong

SUMMARY
We report a case of renal cell carcinoma diagnosed after a patient was treated successfully with intravenous cyclophosphamide for her active proliferative lupus nephritis (classes III and V). After the intravenous cyclophosphamide regimen, the patient was asymptomatic with persistent microscopic haematuria, and no proteinuria. The renal cell carcinoma was located on the left kidney; incidentally, this was where the initial renal biopsy was done to diagnose lupus nephritis.

BACKGROUND
The kidney is one of the common organs affected by systemic lupus erythematosus (SLE), and involvement of the kidneys (lupus nephritis) may warrant aggressive treatment involving immunosuppressives to induce remission. Intravenous cyclophosphamide has been the mainstay of treatment of active lupus nephritis, especially for class III or IV.

We described a case of active lupus nephritis, with persistent microscopic haematuria after the patient was in remission following an induction regimen using intravenous cyclophosphamide, and a diagnosis of renal cell carcinoma of the left kidney.

CASE PRESENTATION
A 52-year-old woman was admitted in March 2012 for seizures. She was subsequently diagnosed as having SLE. Investigations revealed a serum albumin of 31 g/L, serum creatinine of 89 μmol/L, proteinuria of 2.23 g/day, and positive antinuclear antibodies and anti-double stranded antibodies as well as hypocomplementaemia. She was admitted again in April 2012 with a basal ganglia infarct. Renal biopsy from the lower pole of the left kidney was performed in May 2012. The renal biopsy was reported as focal proliferative and sclerosing with an early membranous pattern, a full house pattern was performed in December 2013. Histopathological examination of the left kidney revealed left renal cell carcinoma, chromophobe type Fuhrman grade II, PT1 Nx Mx; there was no lymphovascular invasion, as well as hypocomplementaemia. She was admitted again in April 2012 with a basal ganglia infarct. Renal biopsy from the lower pole of the left kidney was performed in May 2012. The renal biopsy was reported as focal proliferative and sclerosing with an early membranous pattern, a full house pattern was performed in December 2013. Histopathological examination of the left kidney revealed left renal cell carcinoma, chromophobe type Fuhrman grade II, PT1 Nx Mx; there was no lymphovascular invasion, and no proteinuria had disappeared, she had persistent microscopic haematuria, and no proteinuria. The renal cell carcinoma was located on the left kidney; incidentally, this was where the initial renal biopsy was done to diagnose lupus nephritis.

OUTCOME AND FOLLOW-UP
Six months after nephrectomy she remained stable, with no signs of lupus activity (proteinuria negative, normal ESR). The original renal biopsy was revised again, and there was no evidence of renal cell carcinoma.

DISCUSSION
Prior to renal biopsy, ultrasound examination did not reveal any renal mass. Due to the persistent microscopic haematuria, she was referred to the surgical clinic for a urological assessment, and ultrasound revealed the renal mass. She was admitted again in April 2012 with a basal ganglia infarct. Renal biopsy from the lower pole of the left kidney was performed in May 2012. The renal biopsy was reported as focal proliferative and sclerosing with an early membranous pattern, a full house pattern was performed in December 2013. Histopathological examination of the left kidney revealed left renal cell carcinoma, chromophobe type Fuhrman grade II, PT1 Nx Mx; there was no lymphovascular invasion, and no proteinuria had disappeared, she had persistent microscopic haematuria, and no proteinuria. The renal cell carcinoma was located on the left kidney; incidentally, this was where the initial renal biopsy was done to diagnose lupus nephritis.

Unusual association of diseases/symptoms

Persistent microscopic haematuria
Proteinuria and microscopic haematuria are common findings in patients with lupus nephritis. In patients who achieve remission after induction treatment for class III and class IV lupus nephritis, most will have little proteinuria during the remission period. However, persistent microscopic haematuria with no or minimal proteinuria is common in patients with...
Development of malignancy usually occurs in patients many years after cyclophosphamide exposure. Cyclophosphamide has been widely used in treating active lupus nephritis, especially class III or IV. The cyclophosphamide dose used to treat lupus nephritis is much less compared with the regimen used for treating other cancers. In our patient, the cumulative dosage was 6 g. The temporal relationship of the diagnosis of lupus nephritis, treatment with cyclophosphamide, dosage used and diagnosis of renal cell carcinoma in our patient may suggest that renal cell carcinoma was present before or during the diagnosis of active lupus nephritis. It is important not to assume that the presence of persistent microscopic haematuria in a lupus patient clinically in remission is benign.

Learning points

► Some patients may have persistent microscopic haematuria after the induction regimen for lupus nephritis.
► It is important not to assume that the presence of persistent microscopic haematuria in a lupus patient clinically in remission to be benign.
► It is important to investigate and to look for potential malignancy in this group of patients.

REFERENCES
