Introduction

It is estimated that 1/2000 people have a solitary kidney and they are at risk for developing arterial hypertension and impaired renal function [1]. Hypertension is an independent risk factor for progression of renal disease in people born with a solitary kidney. Early detection, regular follow up and prompt management of blood pressure may help slow the progression of renal function impairment [2,3].

Case description

A 42-year-old man with hypertension presented to our hospital for a second opinion regarding management of his elevated blood pressure. He had been diagnosed about a year ago and has been on irregular use of antihypertensives. He was asymptomatic and his blood pressure on both arms while seated was 160/100mmHg. He had no physical signs to suggest a secondary cause of his hypertension. His labs revealed normal thyroid profile and urinalysis. He had elevated serum creatinine of 118umol/l (62.00-106.00) with normal blood urea nitrogen and serum electrolytes.

Serum uric acid levels were mildly elevated at 525umol/l (202.0-416.0). A renal duplex ultrasound showed an enlarged left kidney (13.0 x 6.5) cm with a normal Doppler velocity (peak at 37.5cm/sec). No hydronephrosis, mass or calculi seen. The resistive index in the left renal vessel was 0.8. The right kidney could not be appreciated and right renal agenesis was suspected. A renal scan was arranged and he was imitated on S-amlopidine 2.5mg daily, tabs hydralazine 25mg bid and Carvedilol at a dose of 12.5mg bid. Two weeks after the initial presentation, his renal scan (Figure 1) revealed a normal functioning left kidney with absence of functioning renal tissue in the right renal bed confirming renal agenesis. His blood pressure on this visit was 130/82mmhg and was scheduled to return after a month for follow up.
Conclusion

We present a man with a solitary functioning left kidney and hypertension as well as renal insufficiency. It has been reported that 47% of people with unilateral renal agenesis end up developing hypertension. Optimal blood pressure control and regular follow up of his renal function may help to slow the progression of renal disease.

References

1. Renal agenesis. Orphanet Portal, INSERM.