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Multiple thyroid cysts as an extra-renal manifestation of ADPKD

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A 44-year-old female with autosomal dominant polycystic kidney disease (ADPKD) developed end-stage renal failure by 36 years of age and had been successfully transplanted 6 years ago. Renal transplant function was stable and current immunosuppression was with prednisolone, azathioprine and ciclosporin. Her past medical history included treatment of a middle cerebral artery berry aneurysm.

The patient was presented to the A&E department with the sudden onset of painful swelling on the left-sided neck.

Clinical examination revealed a 3-cm left-sided thyroid swelling. There was no associated local or regional lymphadenopathy. Clinically, she was euthyroid, and thyroid function tests were normal.

A flexible nasendoscopy was normal whilst a USS of her neck revealed multiple cystic nodules affecting both thyroid lobes (Figure 1). A cyst in the upper pole of the left lobe of thyroid appeared collapsed and contained debris, suggesting recent haemorrhage.

Fine needle aspiration of the cyst revealed features of cystic change in a colloid nodule. There was no evidence of malignancy. A USS of the abdomen confirmed enlarged native polycystic kidneys and a large polycystic liver (Figure 2).

Thyroid cysts are associated with ADPKD, although literature reports are scarce. In one series, the clinical manifestations of ADPKD were studied in a Korean population, with thyroid cysts occurring in 2 out of 30 patients studied [3]. Extra-renal cystic changes have also been described in the pancreas, lung, spleen, oesophagus, ovary, testis, epididymis, bladder, uterus and cerebral arteries in the form of berry aneurysms [1,2].

Thyroid nodules are common in women of this age and therefore we should consider whether this reported association is merely coincidental. In a working age population, thyroid nodules were detected by ultrasound scanning in 34% of women [4], with large thyroid nodules (>1.0 cm) seen in 12% of this population [4]. Cystic thyroid lesions represent approximately one-fifth of all thyroid nodules; thus, the likelihood of incidental large cystic thyroid nodules would be $\sim$2.5%. The incidence of ADPKD is 0.1–0.25%; thus, we conclude that the reported association of ADPKD with thyroid cysts is more than coincidental.

This patient with ADPKD has a propensity for extra-renal cystic disease, with a cystic change in the liver and thyroid gland as well as intracranial aneurysm formation. Awareness of thyroid cysts, which may haemorrhage, as an extra-renal manifestation of ADPKD is therefore important.

Conflict of interest statement. None declared.

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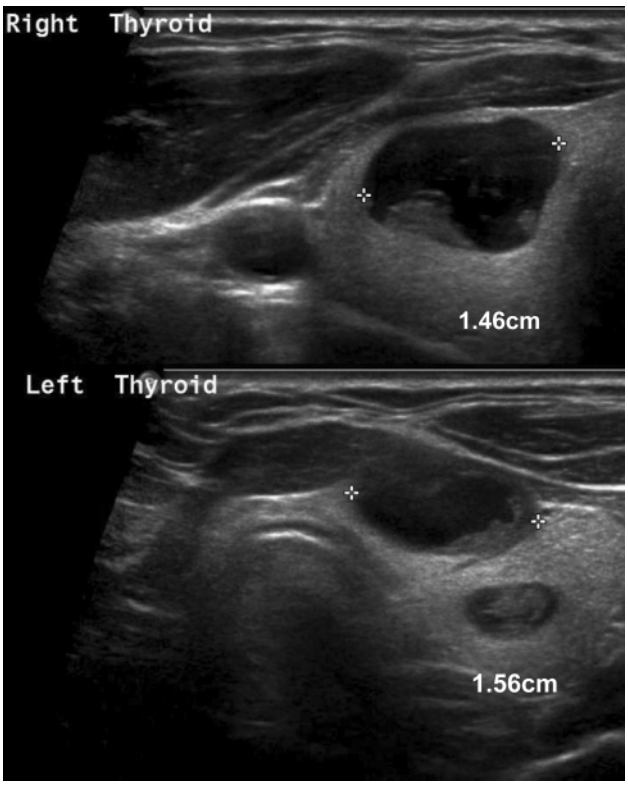

Fig. 1. Ultrasound images of right (above) and left (below) thyroid gland showing cystic changes and debris within cysts. Measured cyst diameters are shown.

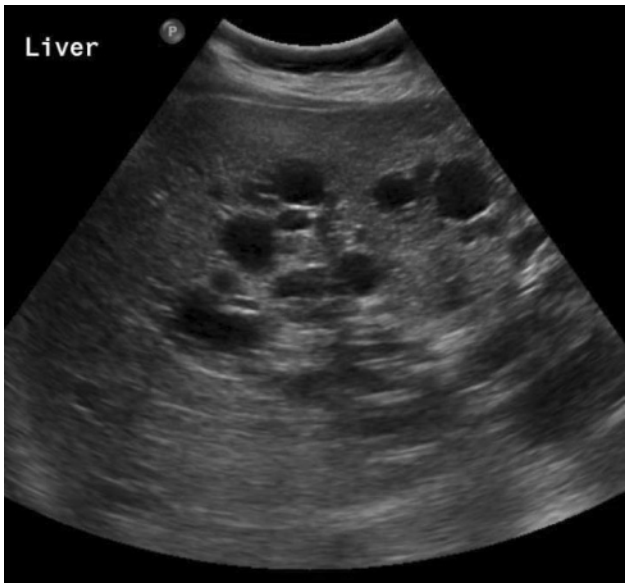

Fig. 2. Ultrasound images of liver demonstrating polycystic changes.