Two incidental lesions: a benign adrenal schwannoma and cerebral meningioma

P Avari[1], A Sharma[1], T Galliford[1]

[1]Department of Endocrinology, Watford General Hospital, West Hertfordshire Hospitals NHS Trust , UK

INTRODUCTION

- Adrenal schwannomas are an extremely uncommon cause of an incidentaloma, originating from the neural sheath Schwann cells of the adrenal gland.
- We report a rare case of two incidental lesions, a benign adrenal schwannoma and cerebral meningioma .
- To our knowledge, there are no cases in the literature to link de-novo adrenal schwannoma and meningioma in patients.

CASE HISTORY

- A 76 year old Caucasian gentleman presented to ED with a ***seizure*** and a community-acquired pneumonia.
- Past medical history included atrial fibrillation and ischaemic heart disease, for which he was on warfarin and bisoprolol.
- He was started on antibiotics for pneumonia. Urgent CT head revealed a left frontal lobe lesion, ***radiologically in keeping with a meningioma***.
- As part of his work-up, CT imaging revealed an ***incidental left adrenal lesion***, approximately 5.5 x 4.0cm.
- On further assessment, he reported gaining little weight, but had no clinical signs to suggest cortisol excess. Abdomen soft with no palpable masses.

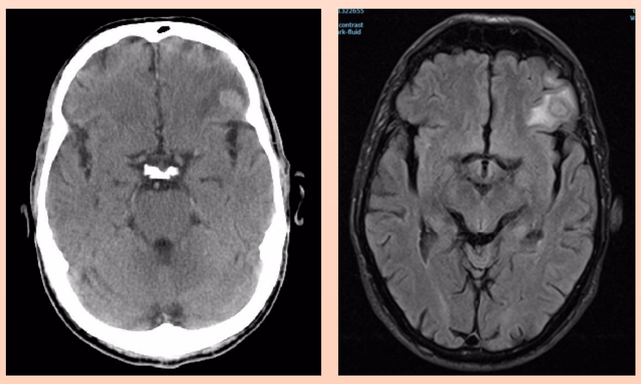

Image 1: Tranverse sections of CT head (left) and MRI head with contrast (right) revealing left frontal lobe lesion.

INVESTIGATIONS

Endocrine investigations revealed:

- Sodium 143mmol/L (137-147mmol/L)
- Potassium 4.4mmol/L (3.6-5mmol/L)
- Renin/aldosterone: normal
- 24-hour urinary catecholamines: normal
- 24-hour urinary cortisol: 171nmol/24rs (normal)
- Overnight dexamethasone suppression test: 29nmol/L (normal)

- Triple phase CT adrenal scan: an indeterminate solid tumour with no contrast wash-out, and features concerning for a primary adrenocortical carcinoma.

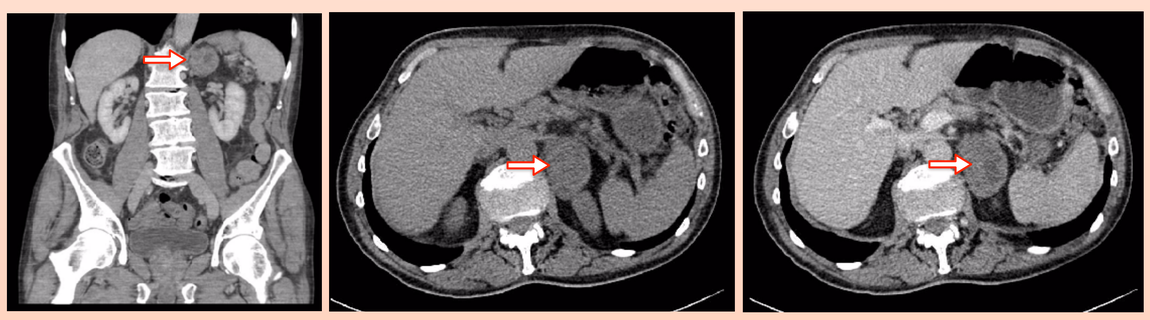

Image 2 CT adrenals: Left: Coronal image of CT abdomen depicting adrenal 5.5cm x 4.0cm lesion (arrow). Axial views pre-contrast (middle) and 60s post-contrast (right), highlighting features concerning for primary adrenocortical carcinoma with no contrast washout.

TREATMENT

- The case was discussed at both neurosurgical and adrenal MDTs. The neurosurgical MDT outcome was for resection of the brain tumour due to size and presentation with seizure.
- However, despite the initial presentation of a seizure, decision was made for ***left adrenalectomy prior to resection of the meningioma.***
- Clinical priority was based on the adrenal lesion being radiologically suggestive of adrenocortical carcinoma, versus a likely benign meningioma.
- Final histology for both lesions confirmed a benign adrenal tumour consistent with schwannoma and a Grade 2 frontal lobe meningioma.

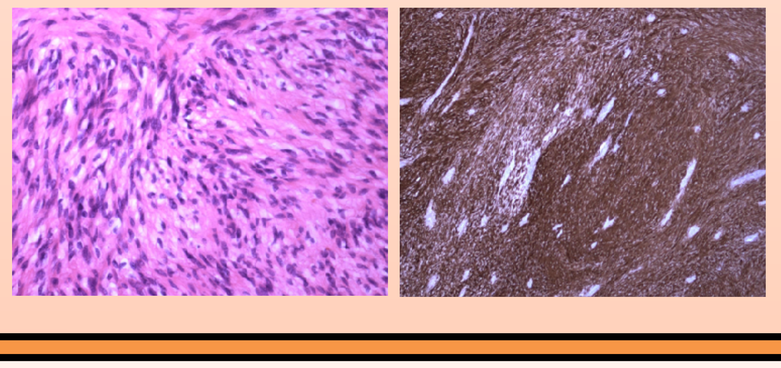

Image 3 Histology: Haematoxylin & Eosin stain (left) at x20 magnification showing spindle cell tumour. Image on right is S100p stain at x4 magnification staining brown as positive, confirming peripheral nerve sheath origin.

DISCUSSION

- To date, no cases of a link between de-novo adrenal schwannoma and meningioma in patients has been reported in the literature.
- Adrenal schwannomas overall are very rare tumours that are difficult to diagnose preoperatively.
- These adrenal tumours are characterized by a benign course, are encapsulated and vary from firm solitary masses to fluctuant cysts. However, large masses >4cm and in the context of possible malignancy, complete laparoscopic excision is the treatment of choice.
- This case highlights the importance of multidisciplinary working to ensure expedited management in such cases.
- Awareness of benign adrenal lesions is vital for accurate pathological diagnosis to guide optimal patient management.

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References:

1. UWhitaker WG, Droulias C. Benign encapsulated neurilemoma: a report of 76 cases. Am Surg. 1976;42:675–678.
2. Lee et al. Abdom Radiol (NY). Abdominal schwannomas: review of imaging findings and pathology.2017 Jul;42(7):1864-1870.
3. Kumar et al. J Clin Diagn Res. Adrenal Schwannoma: A Rare Incidentaloma. 2016 Aug;10(8):PD01-2.