Recurrence of Adrenocortical Carcinoma with an evolving hormonal profile- A case report

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Introduction

- Adrenocortical carcinoma (ACC) is an aggressive cancer of the adrenal cortex.
- Cortisol producing ACC is the most common, while aldosterone secreting ACC is relatively uncommon.
- These cancers can also co-secrete multiple hormones.

Case description

- This is a 71-year-old male with a history of aldosterone-secreting left adrenocortical carcinoma (ACC), for which he underwent a left adrenalectomy five years ago.
- He presented to the clinic with persistent fatigue, back pain, uncontrolled hypertension, and hyperglycemia.
- A CT scan of the abdomen and pelvis revealed a 6.7 cm mass in the left adrenal bed, concerning for recurrent ACC.
- Further evaluation showed elevated 8 AM cortisol, 24-hour urinary cortisol, and late-night salivary cortisol, with suppressed ACTH. Aldosterone/plasma renin activity ratio (ARR) and urinary catecholamines were normal.
- Additionally, both total and free testosterone levels were elevated, indicating a cortisol and testosterone co-secreting ACC.
- A biopsy of the mass confirmed a poorly differentiated ACC. Given the extent of his disease, the patient chose comfort care and eventually passed away.

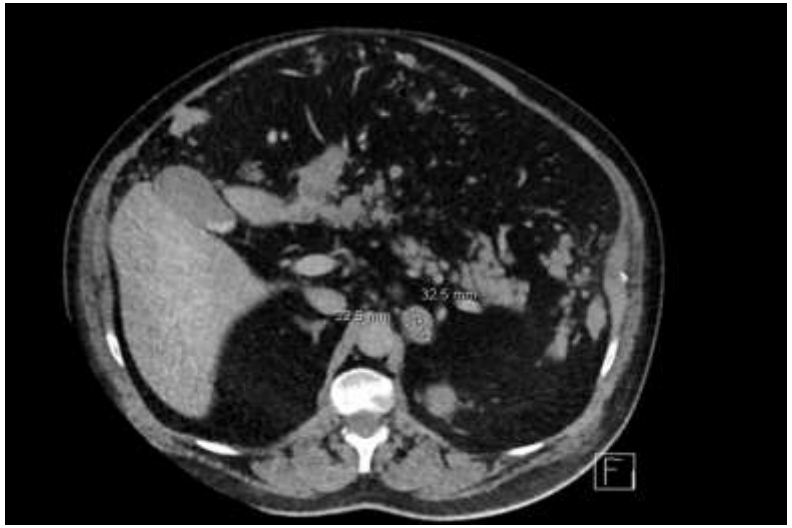

Figure1: CT abdomen/ pelvis showing recurrent mass, 2.3x3.6cm in the left adrenal bed

Discussion

- This case highlights a complex endocrine dysfunction associated with ACC. This patient's initial presentation with aldosterone producing ACC is an uncommon occurrence.
- It is interesting to note the shift in the endocrine profile of the tumor, transforming into a cortisol and testosterone co-secreting ACC.
- The recurrence with a distinct hormonal profile may suggest evolution in the tumor pathophysiology.
- It also highlights the importance of detailed history and physical examination on follow up, for features suggestive of adrenal hormone excess, as it could suggest cancer recurrence.

Conclusion

- Despite its rarity, ACC has remarkably high chance of recurrence. This case highlights the hormonally complex and evolving nature of ACC, necessitating careful monitoring of hormonal status.