

## The diagnostic dilemma of low-grade adrenal cortical carcinoma in a young female patient

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**Figure 1.** MRI, T<sub>2</sub>-weighted image showing 11 cm oval, well-circumscribed mass with high, heterogeneous signal, higher than the adjacent liver



**Figure 2.** Fluorine-<sup>18</sup>F-FDG-PET-CT scan indicating high FDG uptake (SUV max 9.0), more than 3 times higher than the adjacent liver

A 33-year-old woman with hypertension and oligomenorrhea for last 6 months, with an incidentally diagnosed abdominal mass on ultrasound underwent an MRI and <sup>18</sup>F-FDG PET-CT (fig. 1, 2). No abnormalities were seen on lab tests. Initial diagnoses were ganglioneuroma, adrenal cortical carcinoma (ACC) and pheochromocytoma. Ganglioneuroma was supported by age, normal/lower level of adrenal hormones, well-circumscribed margins, progressive enhancement and persistent in delayed phase (in T<sub>1</sub>w before and after dynamic administration of gadobutrol) and no evidence of metastasis [1, 2]. ACC was supported by haemorrhage on T<sub>1</sub>w, heterogeneous T<sub>2</sub>w signal – higher than an adjacent liver, enhanced density of periadrenal fat [1, 2]. Pheochromocytoma was less confident due to the relatively low signal on T<sub>2</sub>w. High FDG uptake (SUVmax 9.0) suggested a malignant character. For all diagnosis parameters like lesion size (11 cm), there was no presence of drop of signal during out-of-phase sequence, no evidence of IVC invasion and local compressive symptoms showed

imaging overlap [1, 2]. DWI revealed a high signal within the lesion, with a low signal on ADC maps. However, DWI does not help a lot in malignant/benign adrenal lesion differentiation [2]. ACC is a very rare and aggressive malignancy, with annual incidence 0.5–2 cases/ million [2]. Excision is a primary treatment for stage I–III disease with adjuvant therapy due to high risk of recurrence even with complete resection [2]. In this case, PET-CT showed adrenal/liver SUV ratio >1.8, indicating the malignant character of the lesion [2]. On laparotomy low-grade ACC, Weiss score 5, Ki-67: 11% was confirmed.

### References

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