DIFFERENTIAL DIAGNOSIS OF AGGRESIVE MACROPROLACTINOMA, ADENOMA OR ATYPICAL ADENOMA: A CASE REPORT

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BACKGROUND

- Atypical tumors were identified in 15% of pituitary adenomas, and they tended to be aggressive, invasive macroadenomas.
- World Health organization (WHO) classification of atypical pituitary adenomas include; Ki-67 proliferative index greater than 3%, excessive p53 immunoreactivity, and ≥ 2 mitotic figures per 10 high-powered fields.
- Pituitary carcinomas are extremely rare tumors with cerebrospinal or extracranial metastasis.

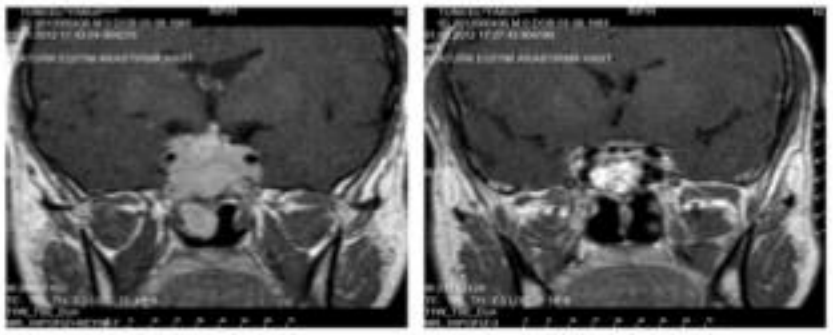
CASE

- A 31 years old man with symptoms of stuffy nose and snore, presented to our policlinic due to the solid lesion on paranasal sinus tomography. Tomography showed a soft tissue lesion with 38 Haunsfield Unit (HU). Pituitary imaging revealed a mass, which lead to destruction of bone structures, suppression of optic chiasm, extending to suprasellar cistern and right nasal cavity.
- Except increased prolactin (470 ng/ml), hormonal levels were in normal ranges. Also macroprolactin was negative.
- Nasal punch biopsy showed an atypical pituitary adenoma with atypical and 8 mitotic figures in the 10 high-powered fields.
- Ki-67 labeling index 2-3%, p53 immunoreactivity was 1%.
- 18-Fluoro-Deoxy-Glucose Positron Emission Tomography determined increased activity in this lesion with 6.4 SUV-max. No distant metastasis was determined.
- Cabergolin 0.5 mg/ twice a week was begun and then he underwent to operation. Histopathological result was a pituitary adenoma with diffuse staining PRL. Ki-67 index was 1%, whereas p53 immunoreactivity was 10%.
- Postoperative prolactin level reduced to 65 ng/ml and no solid lesion was seen in postoperative imagining. His medical treatment is now ongoing.

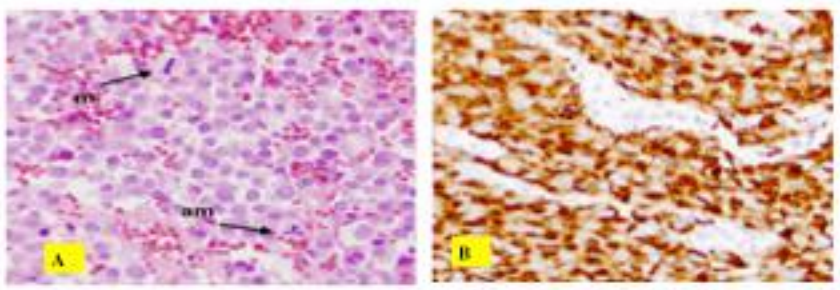
Table 1. Laboratory parameters of the patient before and after operation

Parameter	Reference	Preop	Postop (1.Month)
GH	0 – 5 ng/mL	1	0.03
IGF- I	115-307 ng/mL	150	239
PRL	4.6-21.4 ng/mL	**470**	**65.79**
Macro PRL		Negative	-
TSH	0.27-4.2 uIU/mL	2.5	1.21
FSH	1.5-12.4 mIU/mL	**1.71**	**1.87**
LH	1.7-8.6 mIU/mL	**2.4**	**1.46**
Cortisol	6.2-19.4 ug/dL	17.2	9.5
ACTH	0-46 pg/mL	-	5.6
Total Testosterone	2.84-8 ng/mL	3.6	**1.94**

Picture 1. Pituitary imaging of the patient before and after operation



Picture 2. A: Atypical mitotic figure of the lesion on histopathological specimen **B:** Diffuse staining with PRL



CONCLUSION

- Because of the atypical and ≥2 mitotic activity, necrosis in the nasal punch biopsy, also 38 HU solid lesion in tomography and absent of distant metastasis, we thought primarily atypical adenoma in this case.
- Although histopathological result is consistent with benign prolactinoma, it must be considered that its biological behavior may be progressed to malignancy after several years.