Coexidence of neuroendocrine tumor of the lung and pituitary adenoma – pitfalls in diagnosing acromegaly - case report

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INTRODUCTION

Acromegaly is caused by growth hormone-secreting adenoma in more then 95% cases. Ectopic secretion of GH-RH is a rare cause of acromegaly accounting for less than 1% of all cases. The most frequent source of ectopic GHRH is bronchial carcinoid. Clinical and biochemical findings are similar in both conditions.

A distinction of pituitary vs extrapituitary acromegaly is important in planning effective management and both reasons should be considered in the diagnostic process.

CASE REPORT

An 80-year-old woman with the clinical features of acromegaly (hypertension, congestive heart failure, osteoarthritis of the knees, carpal tunnel syndrome, enlargement of mandibule, hands and feet) was admitted to the Endocrinology Unit for further evaluation. The lab test confirmed acromegaly. The pituitary tumor was not found on MRI. The hypothesis of acromegaly secondary to ectopic GHRH secretion was propounded. The lung tumors (9x9x6mm and 5mm) were detected in CT scans. There was no confirmation of lung or pituitary pathology in somatostatin receptor scintigraphy. PET-CT (68-Ga-DOTA-TATE) revealed a presence of higher expression of somatostatin receptors in 10th segment of left lung. The lung tumor was successfully removed (histologically NET G1, Ki67<1%). The postoperative IGF1 level was still elevated with no GH suppression during the OGTT. The MRI of the pituitary was repeated and finally pituitary tumor was found (3.5x7x4.5 mm anterior lobe). The patient was successfully operated and biochemically cured.

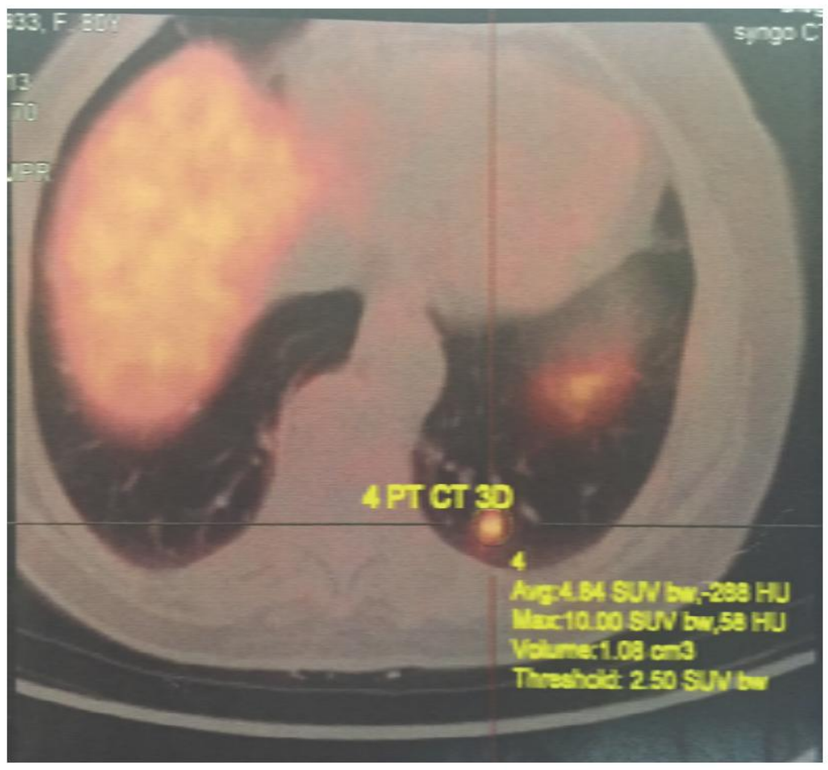
Oral glucose tolerance test during first hospitalization:

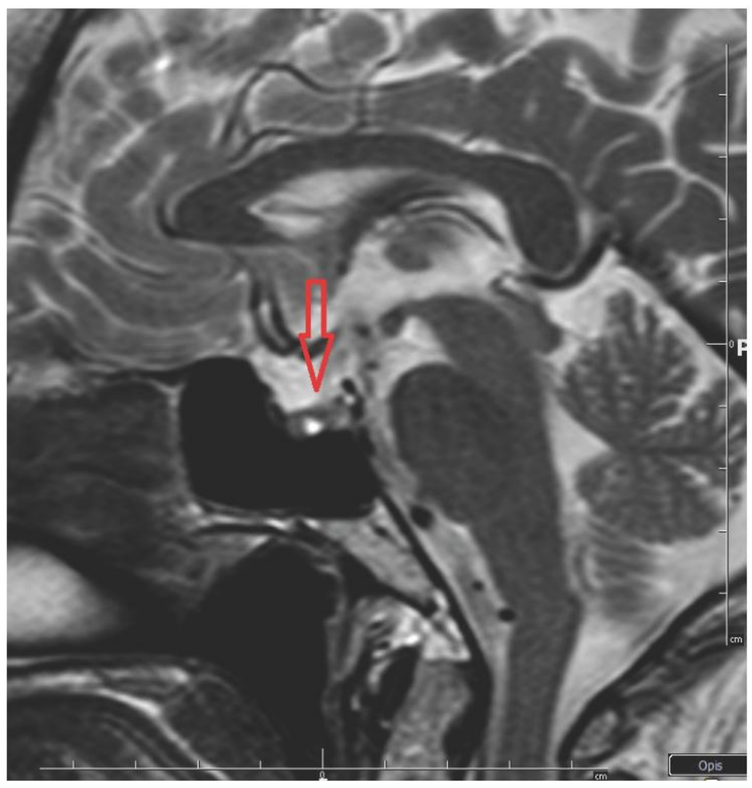
TIME	HGH [ng/ml]	glucose [mg/dl]	IGF-1 [ng/ml]
0 MIN	2.07	94	277
30 MIN	1.46	147	
60 MIN	2.83	136	
90 MIN	2.38	103	
120 MIN	2.15	119	

Oral glucose tolerance test after lung tumor ressection:

Time:	HGH [ng/ml]	glucose [mg/dl]	IGF-1 [ng/ml]
0 min	2.05	93	287
30 min	1.47	133	
60 min	3.48	147	
90 min	2.6	127	
120 min	2.15	116	

PET-CT revealed a presence of higher expre-ssion of somatos-tatin receptors in 10th segment of left lung.





MRI SCAN revealed finally pitui-tary tumor 3.5x7x4.5 mm

CONCLUSIONS

Despite the rare occurrence of acromegaly, it should always be considered during the diagnosis.
Only detailed evaluation may facilitate prompt diagnosis and recovery from this destructive disease.