

# SUSPECTED MEDULLARY THYROID CANCER IN A PATIENT WITH NEUROENDOCRINE TUMOR OF LEFT LUNG.

Elżbieta Andrysiak-Mamos, Elżbieta Sowińska-Przepiera, Bartosz Kiedrowicz, Ewa Żochowska, & Anhelli Syrenicz



<sup>1</sup>Department of Endocrinology, Metabolic and Internal Diseases, Pomeranian Medical University, Szczecin, Poland

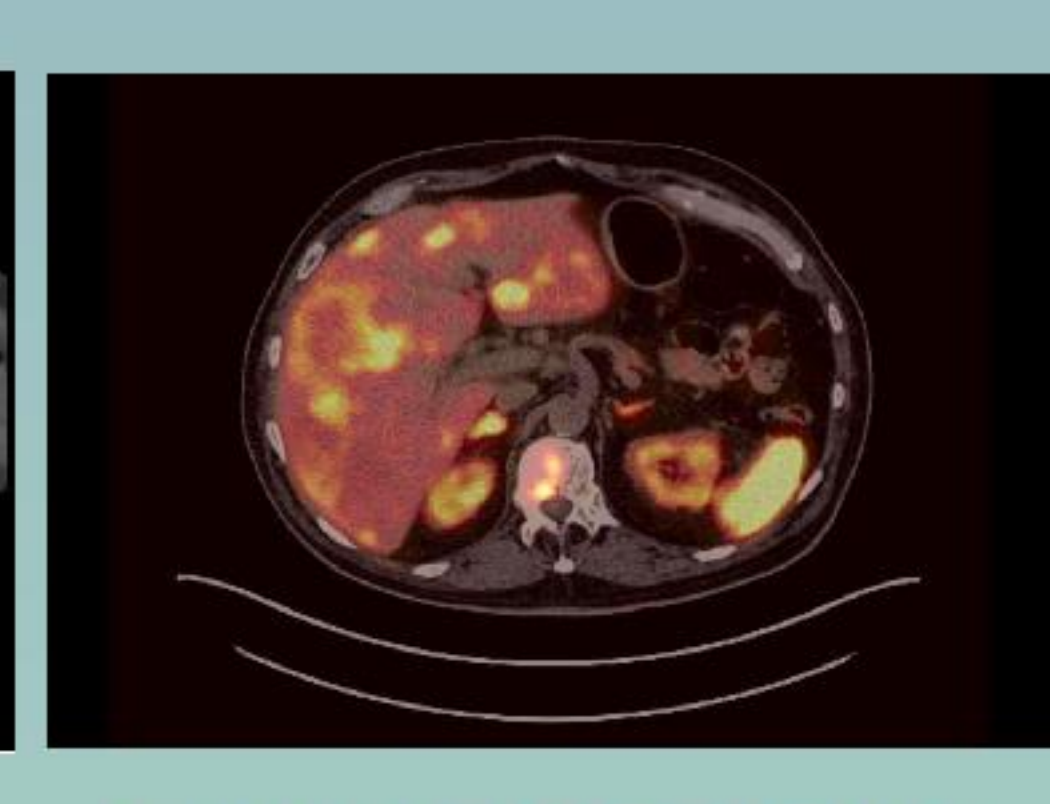
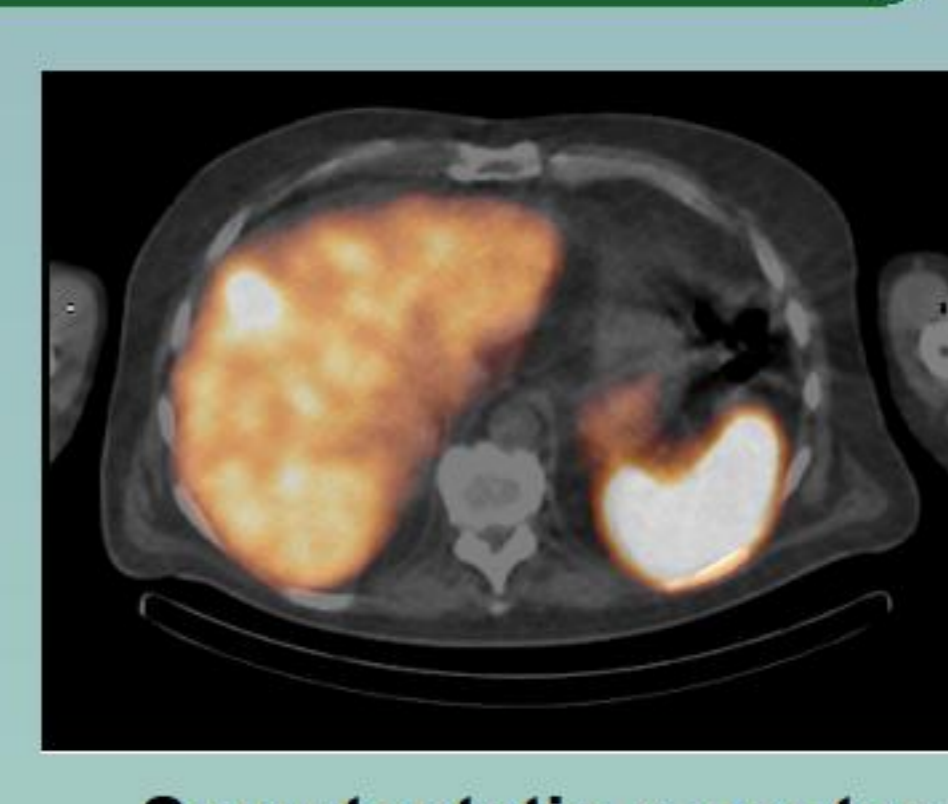
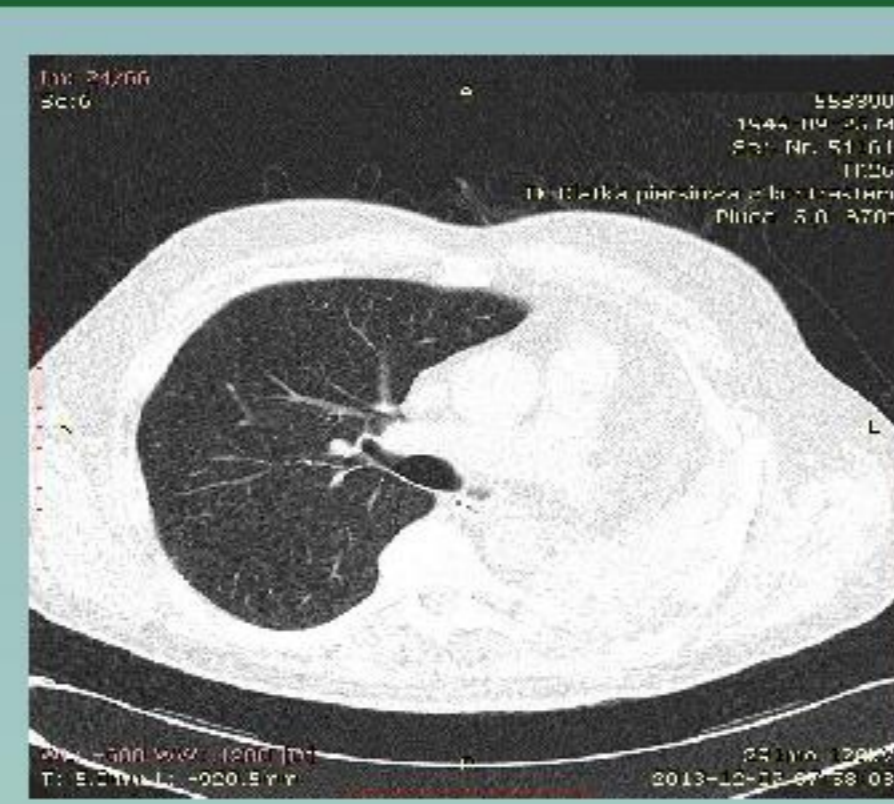
## Introduction

Despite recommendations neuroendocrine tumors may still pose diagnostic and therapeutic problems. Patients are referred to specialized centers when their disease has already progressed to generalized stage.

## CASE REPORT

A 64-year old male patient was referred to the Department of Endocrinology at the Pomeranian Medical University in 2013 because of liver metastases. His medical history included a surgical treatment of left lung tumor in 2006 with histopathology: *Typical carcinoid* (Ki67 12% - G2, T3N1M0). The patient has suffered from the symptoms of carcinoid syndrome for a few years. He has had abdominal pain for one year. Ultrasound and CT scan of the abdomen suggested the suspicion of liver metastases which was later confirmed by histopathology findings in core-needle biopsy specimen – neuroendocrine tumor with Ki 67 ranging from 17 to 31%. CT scan of the chest ruled out local recurrence and metastases in the right lung. Receptor scintigraphy - NET metastases. High levels of tumor markers were also observed (chromogranin 879 ng/ml, 5-HIA acid 181 mg/24h, calcitonin 387 pg/ml, CEA 6.47, AFP 3.44 IU/ml). Ultrasound of the thyroid gland revealed several hypoechoic foci in both lobes, their sizes ranging from 3 to 10mm. A medullary thyroid cancer was suspected based on fine-needle biopsy and high calcitonin levels. Thyroidectomy was performed. Histopathology investigation revealed multiple foci of neuroendocrine tumor in both thyroid lobes, with the Ki67 proliferation marker ranging from 7 to 22%, ruling out the diagnosis of medullary cancer based on negative calcitonin staining. The patient was treated with somatostatin analogues with good clinical effect and with PRRT because of disease progression confirmed in imaging examinations.

## Results

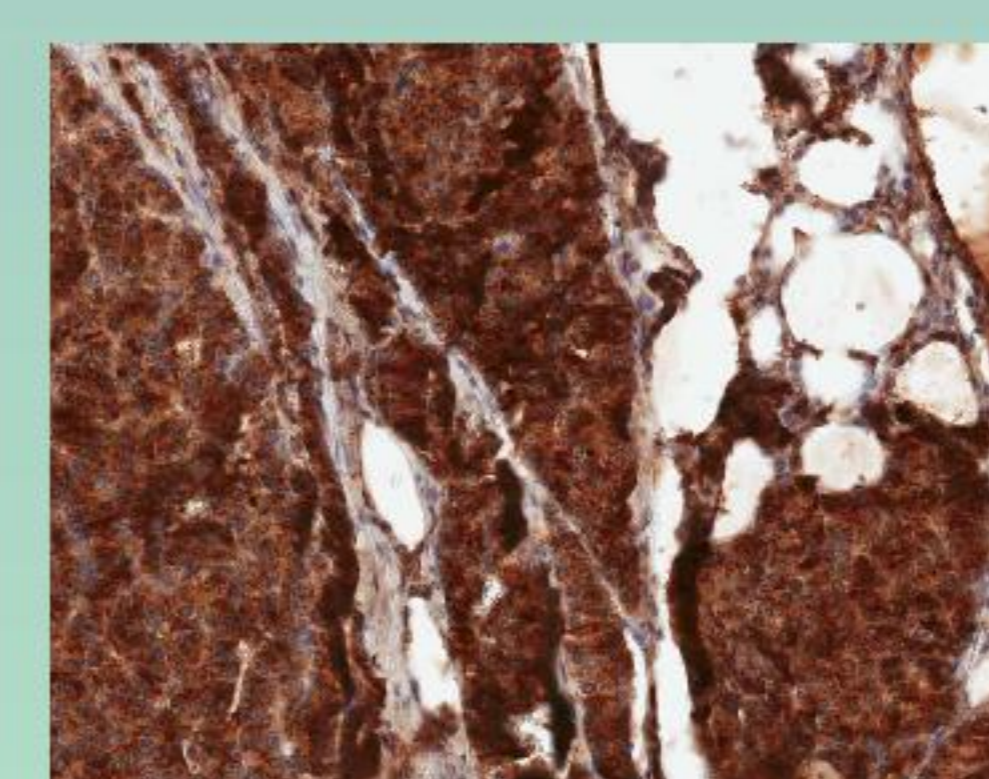
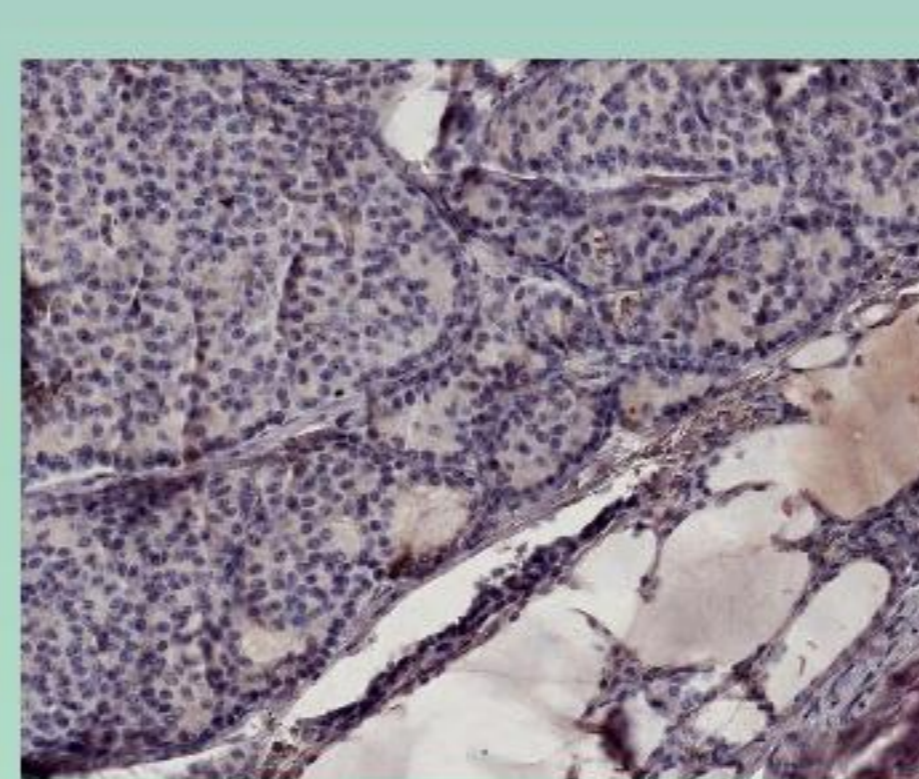
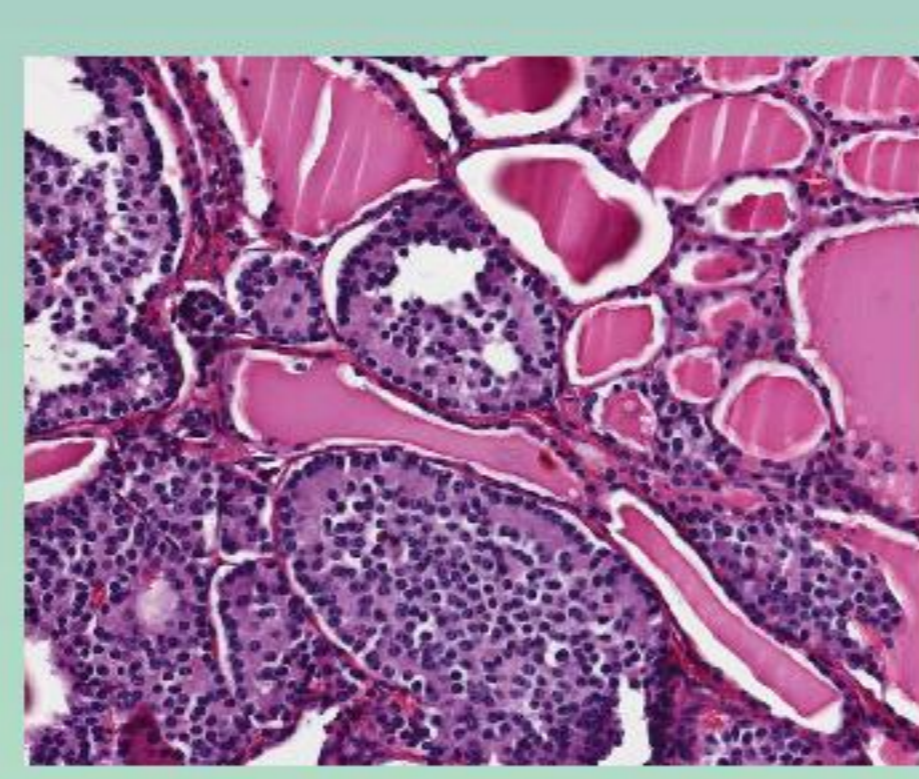
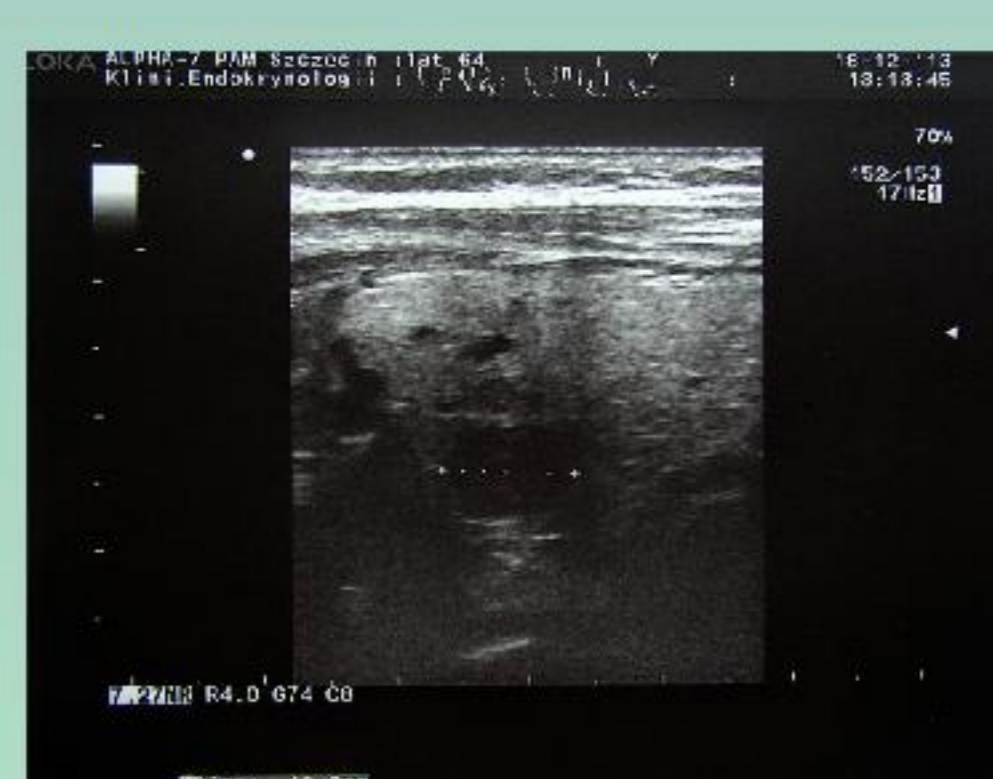


- pneumonectomy radicalis sinistra – 06.2006r.  
histopatologia - *Typical carcinoid* pT4N1M0  
Well-differentiated neuroendocrine tumor  
Ki67 – 7% - G2

Liver and vertebral metastases of typical lung carcinoid (TLC) in abdominal CT scan (largest lesions: 5.8cm and 5.5cm)

Somatostatin receptor scintigraphy (octreoscan) – liver and vertebral metastases

Ga68-DOTATATE PET/CT – liver and vertebral metastases



Thyroid metastases of TLC in thyroid ultrasound

stain for calcitonin

stain for chromogranin

	Before treatment	After 6 m treatment AS	After 1 PRRT treatment	References
Chromogranin	1159,0	8 368	7 405	20- 150,0 ng/ml
Calcitonin	388,5	172 - after thyroidectomy	155	<2,0 pg/ml
CEA	3,8	2,11	3,1	<5,0 smoking ng/ml
ACTH	82,0	79,0	70,8	0-46
5-HIAA	146	119	98	0-8 mg/24

## LABORATORY RESULTS

	References	UNIT
5-HIAA	I - 168,0 II - 147,0	0-8,0 mg/24h
Chromogranin	1159,0	20- 150,0 ng/ml
Calcitonin	388,5	<2,0 pg/ml
CEA	3,8	<5,0 palący ng/ml
AFP	3,44	0,0- 5,8 IU/ml

	8.00	24.00	UNIT	References
Cortisol	12,5	3,53	µg/dl	5,0-25,0
ACTH	89,2	70,0	pg/ml	0-46,0

	Levels	References	UNIT
TSH	1,81	0,27- 4,2	mIU/ml
ft3	2,97	2,0-4,4	pg/ml
ft4	1,24	0,93-1,7	ng/dl
antyTPO	16,8	7,63- 42,6	pg/ml
antyTG	11,2	0,70 -3,6	ng/ml
PTH	32,0	11- 67	pg/ml
Thyroglobulin	33,6	11-58	

	Levels	References	Unit
ALAT	27	0 - 41	U/l
AspAT	17	0 - 38	U/l
GGTP	161	9 - 60	U/l
ALP	135	40 - 130	U/l
Total Ca	2,62	2,20-2,55	mmol/l
Ionized Ca	1,41	1,12-1,32	mmol/l
HbA1c	6,88	4,8-5,9	%

## Conclusions

High calcitonin levels and suspected medullary thyroid cancer in fine-needle aspiration biopsy of focal thyroid lesions sampled from a patient with NET do not rule out thyroid metastases associated with the underlying disease.

[Metastatic neuroendocrine tumors to the thyroid gland mimicking medullary carcinoma: a pathologic and immunohistochemical study of six cases.](#)

Matias-Guiu X, LaGuette J, Puras-Gil AM, Rosai J. Am J Surg Pathol. 1997 Jul;21(7):754-62.

[Thyroid metastases from typical carcinoid of the lung differentiating between medullary thyroid carcinoma and neuroendocrine tumor metastasis to the thyroid.](#)

La Rosa S, Imperatori A, Giovanella L, Garancini S, Capella C. Thyroid. 2009 May;19(5):521-6. doi: 10.1089/thy.2008.0424

