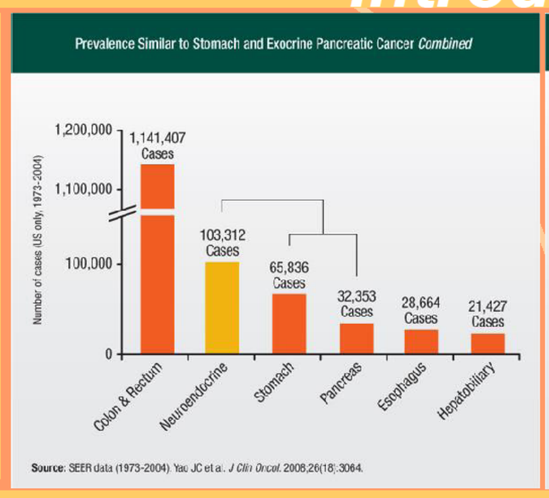
Concomitant long evolving neuroendocrine breast carcinoma and pancreatic tumor- a random association?

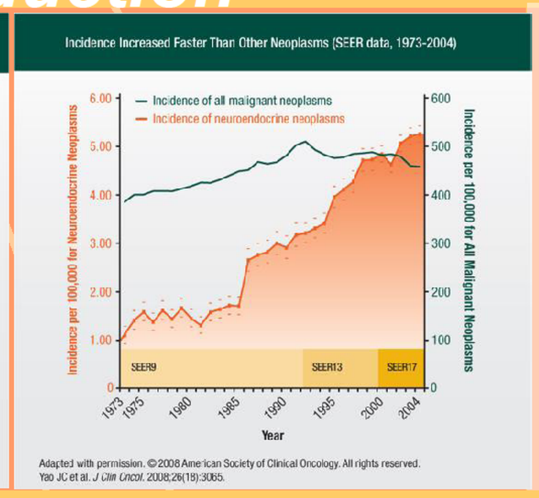
1– Department of Endocrinology, St. Spiridon Emergency Hospital, University of Medicine and Pharmacy "Grigore T Popa" Iași
2 - Department of Endocrinology, Clinical Hospital Bacau 3 – Department of oncology, Victoria Hospital
4 – Department of anatomopathology, St. Spiridon Emergency Hospital, University of Medicine and Pharmacy "Grigore T Popa" Iași

Iulia Crumpei[1], Ioana Armașu[1], Alina Fadur[1], Mihaela Anton[2], Constantin Volovat[3], Mihai Danciu[4], Voichita Mogos[1], Carmen Vulpoi[1]

Introduction

➢Breast neuroendocrine carcinoma is a rare aggressive neuroendocrine tumor (NET).
➢Its incidence increased in the last period, from less than 0.4% to 3.4% of all breast carcinomas.
➢ According to the World Health Organization (WHO) classification of tumors neuroendocrine tumor in the breast is a category that includes solid neuroendocrine carcinoma, small cell/oat cell carcinoma and large cell neuroendocrine carcinoma.





➢Neuroendocrine gastroenteropancreatic tumors (GEP-NETs) are a heterogeneous group of tumors with their origin in neuroendocrine cells of the embryological gut.
➢The primary lesion is located in the gastric mucosa, the small and large intestine, the rectum and pancreas.
➢The incidence has significantly increased over the last years and is now estimated to be 5.25/100 000/year.
➢The prevalence has recently been calculated to 35/100 000/year.

Case report

Female patient, aged 73

➢Presented at the Endocrinology Department with the following **symptoms**:
- ▪intense lumbar pain that radiates to the right anterior subcostal region;
- ▪loss of appetite; weight loss (15 kg in 2 months);
- ▪persistent dry cough

➢Medical history:
- ▪ **1970**: nodular goiter (operated in 1977 - subtotal thyroidectomy)
- ▪ **1999**: diabetes mellitus type 2 (October 2011 it requires insulin administration)
- ▪ **1999**: hypertension (max systolic BP= 230 mmHg)
- ▪ **2008**: angina pectoris
- ▪**2011**:
  - ❖ **Thoracic CT**: suspicion of **sarcoidosis:** mediastinal lymph nodes in the hilum and right lung, nodule in the left hilum of 27/25/38 mm, multiple pulmonary parenchymal nodules (<1 cm) in the upper segment of the left lung.
  - ❖**Bronchoscopy with biopsy:** Epithelioid gigantic-cellular granuloma with central ischemic necrosis, + for CD-68
- • **2012**: **Thoracic control CT** – stationary aspect
- •**2013**:
  - ❖**Abdominal CT**

→ an area in the pancreas at the isthmus, measuring 21/20 mm
→ dilated Wirsung duct (5-6 mm).
→ CA-50 = 14 U/mL (N<25 UI/mL)
- ▪ *without further other investigations*
- ❖ **Mammography**: Mammary gland fibroadenoma

January 2014 (due to intense lumbar pain):
- •**Lumbar-sacral spinal MRI**: secondary disseminations in the dorsal and lumbar-sacral vertebrae (fig 1)

→ carcinoma / lymphoma / myeloma **?**

January 2014:
- •**Abdominal CT**: intraductal pancreatic lesion with secondary disseminations in the liver, spleen and bone (figure 2, 3, 4, 5)

March 2014:
- ▪**Abdominal ultrasound** :slightly enlarged liver with metastases; in the pancreas a hipoechoic nodule in the isthmus and body, measuring 57/29 mm; in the splenic hilum 2-3 hipoechoic nodules (fig 6).
- ▪**Thoracic X-ray:** right hilar lymphadenopathy 1.5 mm, old posterolateral rib fractures C5-C8, osteolytic lesions of 0.5 cm - left posterior C4 , anterior ligament calcification, dorsal osteoarthritis (fig 7).

Laboratory findings		
	Results	Normal range
Chromogranin A (ng/mL)	141.8	0 - 100
Serotonin (ug/L)	990	50 - 200
5-HIAA (mg/24h)	0.2	2-10
CA15-3 (UI/ml)	160	0 – 38.4
CEA (ng/ml)	31.5	0 – 1.5


Figure 1


Figure 2


Figure 3

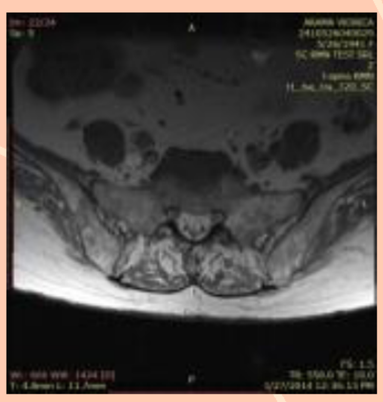


Figure 4

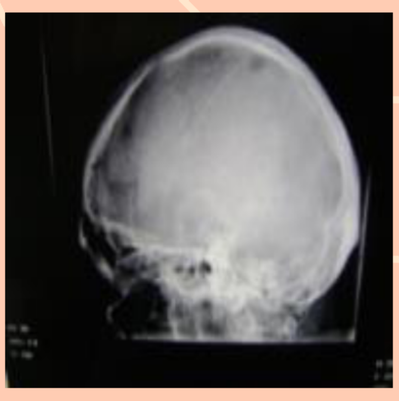


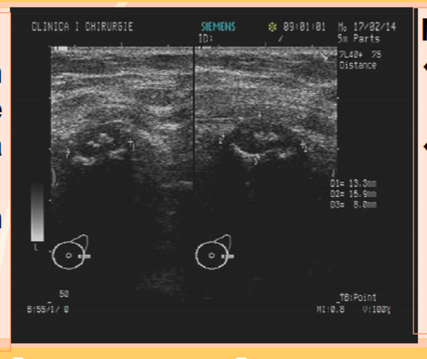
Figure 5


Figure 6


Figure 7

Results

Breast ultrasound:
In the left breast (5 cm from the nipple) multiple solid nodules with a maximum
diameter of 10 mm, with coarse calcifications.
+↑ CA15-3, CEA => Breast cancer



Morphopathology investigations
❖ biopsy from one lesion in the liver :**metastasis of poorly differentiated carcinoma**
❖ immunohistochemistry: intense + for citokeratin-7, weak/moderate + for chromogranin, - for synaptophisin, citokeratin-20 , weak/moderate +for estrogen receptor in 50-60% cells. : **CARCINOMA OF THE MAMMARY GLAND WITH NEUROENDOCRINE FEATURES**

Diagnosis
❖**carcinoma of the mammary gland with neuroendocrine features**
❖ probably **pancreatic neuroendocrine tumour**
❖**metastasis** in the **liver**, **lung** and **bone**

Oncology evaluation
The oncology evaluation staged the tumour: **cT2N0M1** (liver, lung, bone), ECOG performance status 4.
TREATMENT: **somatostatin analogues (sandostatin lar ®), zoledronic acid, aromatase inhibitors.**

In March 2014, due to pulmonary complications, the patient died.

Discussions

- Long asymptomatic evolution or misdiagnosis?
  - •bone pain
  - •difficult balancing diabetes
  - •chronic respiratory insufficiency
- The period of 3 years of treatment for sarcoidosis
  - •but with the enhancement of respiratory symptoms and bone pain.
- Are there correlations between breast neuroendocrine carcinoma and pancreatic neuroendocrine tumors?
  - •There are no similar cases reported in the literature.

Conclusions

The peculiarity of the case:

➢ the association of:
- ❖ breast carcinoma with neuroendocrine features
- ❖ probably pancreatic neuroendocrine tumour

➢ evolving for a long period of time in the past
➢ which was initially considered and treated as *sarcoidosis*.

References:

1. Handbook of Ganstroenteropancreatic and Thoracic Neuroendocrine Tumours, M. Caplin, J.C. Yao, BioScientifica 2011; Paik WH et al, J Korean Med Sci, 2013; Thomas M. O'Dorisio, Neuroendocrine Cancer Regional Conference, Ohio, 2011; 2. Neuroendocrine gastro-entero-pancreatic tumors:ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up-K. Öberg1, U. Knigge2, D. Kwekkeboom3 & A. Perren4 on behalf of the ESMO Guidelines Working Group* 3. Handbook of gastroenteropancreatic and Thoracic Neuroendocrine Tumors- Martyn Caplin, James Yao 4. Managementul diagnosticului si tratamentul chirurgical în tumorile neuroendocrine gastrointestinale-V. Tomulescu1, O. Stănciulea, S. Dima1, V. Herlea2, E. Stoica Mustafa2, T. Dumitrascu1, C. Pechianu2, I. Popescu1-Chirurgia (2011) 106: 151-161 Nr. 2, Martie – Aprilie

17 ECE 1343--EP
Clinical Cases - thyroid/others
Iulia Crumpei
DOI: 10.3252/pso.eu.17ece.2015
Poster presented at: ECE2015 16-20 May 2015 DUBLIN, IRELAND 17th EUROPEAN CONGRESS OF ENDOCRINOLOGY
PosterSessionOnline.com