Recurrent bronchial carcinoid tumour presenting as a thyroid nodule

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Introduction

A 35 year old GP's receptionist presented in 2001, with persistent cough and right basal changes on CXR. Over the following 2 years she had further episodes of pneumonia but CXR changes and symptoms recurred after antibiotic therapy. There was no associated weight loss or sweats. CT of chest (Fig. 1) was suggestive of consolidation but bronchoscopy revealed a polypoid tumour occluding the right lower lobe orifice (Fig. 2)

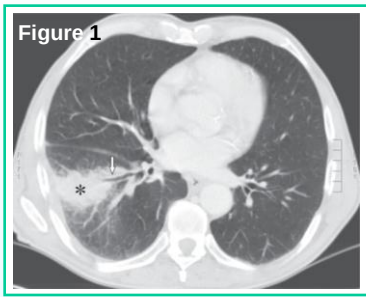


Figure 1

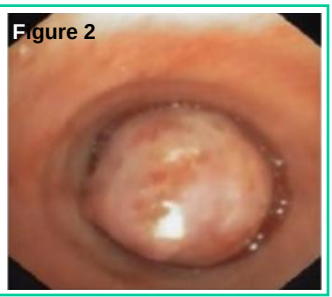
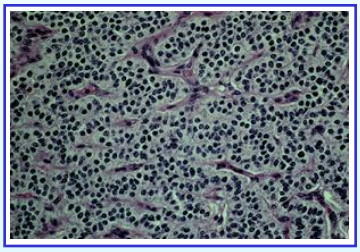


Figure 2

Histology (Fig. 3)

- **Proliferation of uniform cells arranged in ribbons and trabeculae**
- **Immunohistochemistry strongly +ve for chromogranin, NCAM, PGP 9.5, synaptophysin i.e. typical carcinoid tumour**



Mananagement

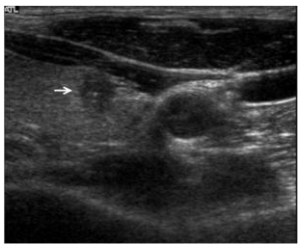
•Right lower and middle lobectomy Nov 2003
•Histology confirmed typical carcinoid tumour with complete resection margin
•Well and back to work by Feb 2004. Discharged from respiratory follow-up

Progress

- **Well until Dec 2011**
- **Referred to endocrinology with right sided thyroid nodule, fatigue, weight loss. TFTs normal**
- **On examination -firm nodular mass right lobe of thyroid, associated lymphadenopathy**

Thyroid Ultrasound (Fig. 4)

- **Multiple suspicious lesions within thyroid,**
- **Largest nodule 2 x 2 x 3 cm**
- **Highly vascular appearance**
- **Enlarged and rounded lymph nodes within the neck**
- **Fine needle aspiration - Thy 1**



Investigations

- **Calcitonin <14 ng/l**
- **Chromogranin A >300 pmol/l**
- **Urinary 5HIAA 34umol/ 24 hrs = normal**
- **Urinary catecholamines/ metanephrines normal**
- **CT thorax, abdomen, pelvis –**
  - **Multiple thyroid nodules**
  - **3 x 3 x 5 cm enhancing subcarinal mass**
  - **Pulmonary and liver nodules**
  - **Peritoneal deposits**
  - **Lytic and sclerotic lesions throughout skeleton**
- **NM bone scan (Fig. 5) consistent with bone metastases affecting thoracic vertebrae, pelvis, femur and tibia bilaterally**

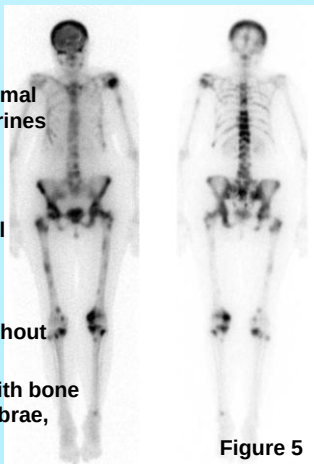


Figure 5

Investigations 2

- **Octreotide scan – no uptake**
- **Core biopsy (thyroid) – recurrent neuroendocrine tumour (NET)**
- **^{131}I-MIBG scan –thyroid and some liver lesions MIBG avid raising the possibility of 2 synchronous cancers but**
- **^{18}F-FDG PET –equally FDG-avid disease in skeleton, liver, subcarinal nodes and thyroid**

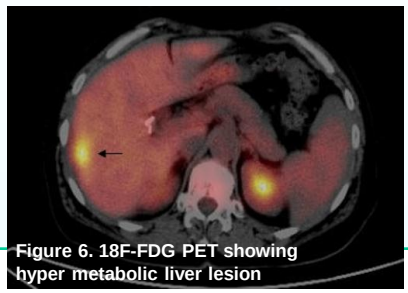


Figure 6. 18F-FDG PET showing hyper metabolic liver lesion

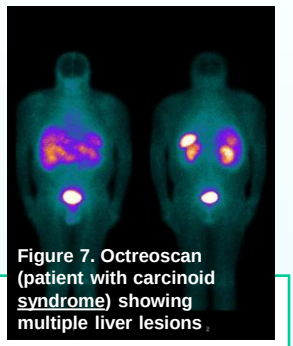


Figure 7. Octreoscan (patient with carcinoid syndrome) showing multiple liver lesions

Progress 2 and further management

- **Main symptom is back pain. No symptoms of hormone excess**
- **Local radiotherapy to T11 vertebra May 2012 (20 Gy in 5 fractions over a week)**
- **Oral morphine and lignocaine patches**
- **Monthly pamidronate**
- **Octreotide not given as no symptoms of carcinoid syndrome or octrotide avid disease**
- **Nov 2012 c/o trial drug (RADIANT IV everolimus vs. placebo)**
- **Jan 2013 improvement in pain and shrinkage of thyroid mass**

Discussion

Bronchial carcinoid tumours are rare (accounting for 1-2% of all lung malignancies) and typically low-grade, slow-growing NETs. The average age of diagnosis is 46 years[1] and most patients present with cough, wheeze and recurrent pneumonia in the same pulmonary segment. Carcinoid syndrome is seen less frequently in bronchial carcinoids than in midgut tumours as they produce less serotonin[2]. Treatment of choice is surgical resection and typical carcinoids such our patient's tumour usually have a good prognosis, with reported 5 year survival of 87-100%[3,4]. There is no evidence for adjuvant therapy in totally resected tumours. Prolonged survival is often possible even with metastatic disease, which, if localised to the liver, can be treated by resection or embolisation/ ablation. Somatostatin analogues are useful for controlling carcinoid syndrome and can also slow tumour growth[5]. The role of cisplatin-based chemotherapy, temozolomide and everolimus in progressive metastatic carcinoid are uncertain but clinical trials are ongoing.

Carcinoid tumour, and indeed other NETs, presenting or recurring as a thyroid nodule is extremely rare, with only a few cases reported in the literature [6-9].

This case highlights the importance of long term follow up of all bronchial carcinoid tumours (by annual physical examination and CT/ MRI imaging of the thorax) , an approach which is now recommended in consensus guidelines[10].

References

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