Case-Based Diagnosis Training

Patient:
Gender: Female
Age: 49 years

Clinical History:
A 49-year-old woman with no remarkable clinical history presented with pain in the back and the left hip. Radiography and MRI of the spine and CT of the thorax and abdomen showed multiple lytic lesions throughout the skeleton. On PET CT the lesions were FDG-avid (with exception of the cystic components). A non-avid soft tissue lesion in the anterior mediastinum was also noted.

Final Diagnosis:
Primary hyperparathyroidism with various forms of bone resorption and brown tumors caused by an ectopic parathyroid adenoma in the anterior mediastinum.

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**Additional Pictures:**

In case you want to submit further pictures please add these (radiograph, ultrasound, CT or MR images) by clicking on the symbols within the boxes below:

**Picture 4:** Detail of a thoracic radiograph in 2010 (left) and 2016 (right): subchondral resorption of the distal clavicle

**Picture 5:** Radiograph of the left hand: subperiostial and tuft resorption

**Picture 6:** CT slices through the skull: Pepper pot skull

**Picture 7:** CT slice through the femur: intracortical resorption

**Picture 8:** CT slice through the pelvis: subchondral and intracortical resorption

**Picture 9:** CT slice through the lesser trochanter: subligamentous resorption
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Additional Pictures:

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Picture 10: CT slice through the pelvis: confluent areas of resorption representing brown tumors

Picture 11: MRI of the pelvis: T1 and T2 fs images: brown tumors containing solid and cystic components

Picture 12: PET CT fusion image: FDG avidity within brown tumors, with exception of the cystic components

Picture 13: PET CT fusion image: non-avid ectopic parathyroid adenoma

Picture 14: 99m Tc Sestamibi scan: ectopic parathyroid adenoma in the mediastinum

Picture 15: CT slice through a thoracic vertebra before (left) and after treatment (right): after treatment gradual sclerosis of the brown tumor