

Giant Mediastinal Parathyroid Cyst with Hyperparathyroidism – a case report

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Primary hyperparathyroidism (PHPT) is rarely caused by parathyroid adenoma with cystic degeneration (<1%), especially by the cyst localized in mediastinum.

Parathyroid gland cysts present <0.01 % of all neck masses

10 % of them localized in mediastinum

118 cases published all over the world until 2012

Case presentation

57 years old woman was transferred from district hospital where her urosepsis and nephrolithiasis had been treated successfully. A liquid collection in left hemithorax had also been found during radiological examination. (Fig.1) She underwent thoracocentesis under CT (Fig. 3+4) because empyema had been suspected as a source of sepsis. Neither pus nor malignancy was found at cytological examination.

Laboratory results:

PTH 14, later 78 pmol/l (normal range 1-7)

Ca 2.62 mmol/l (2.15-2.55)

Ca²⁺ 1.99 mmol/l (0.9-1.3)

P 0.61 mmol/l (0.84-1.45)

albumin 25.9 g/l (34-48)

CRP 96 mg/ml (<5)

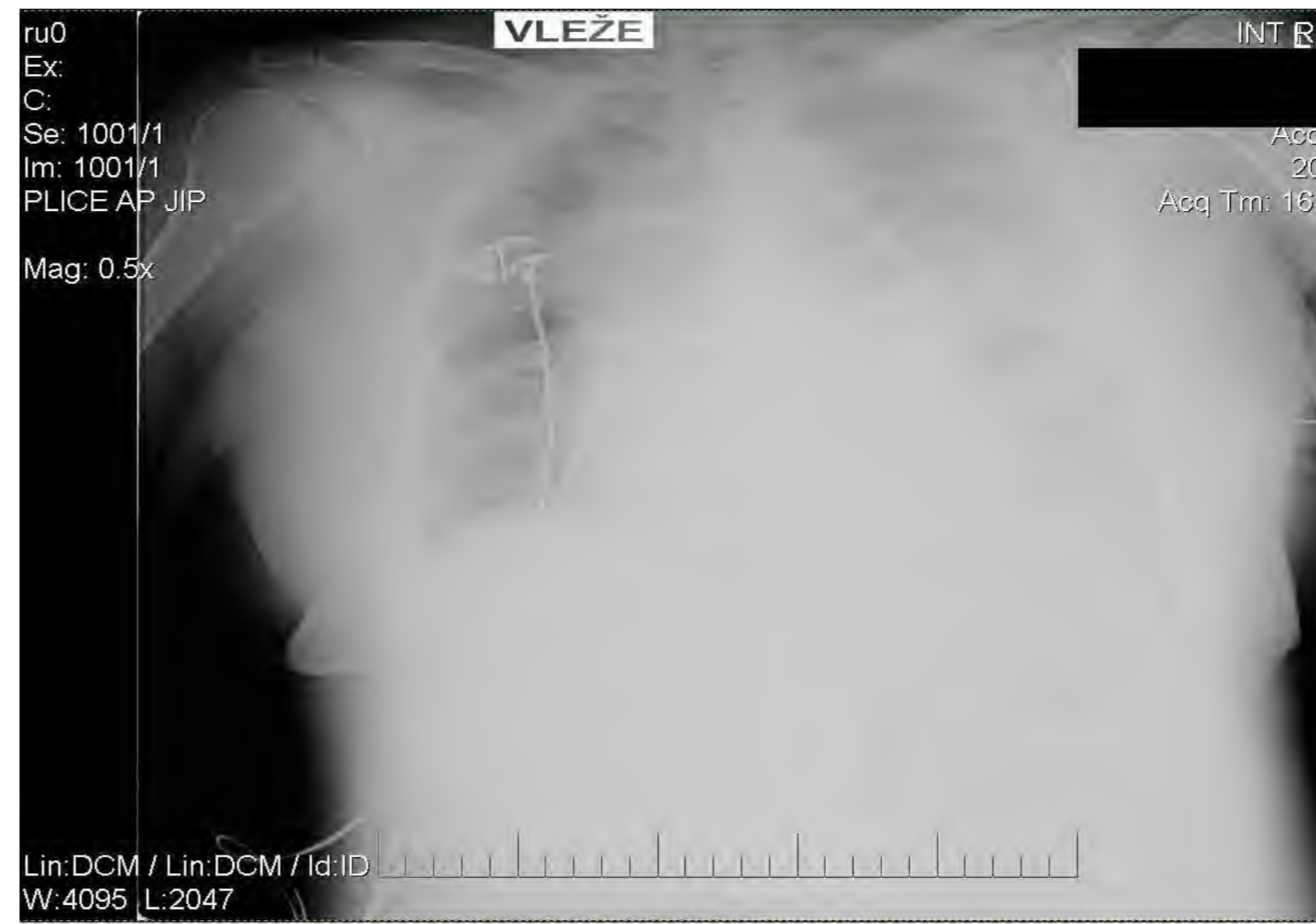


Fig. 1 Chest X-ray, horizontal position

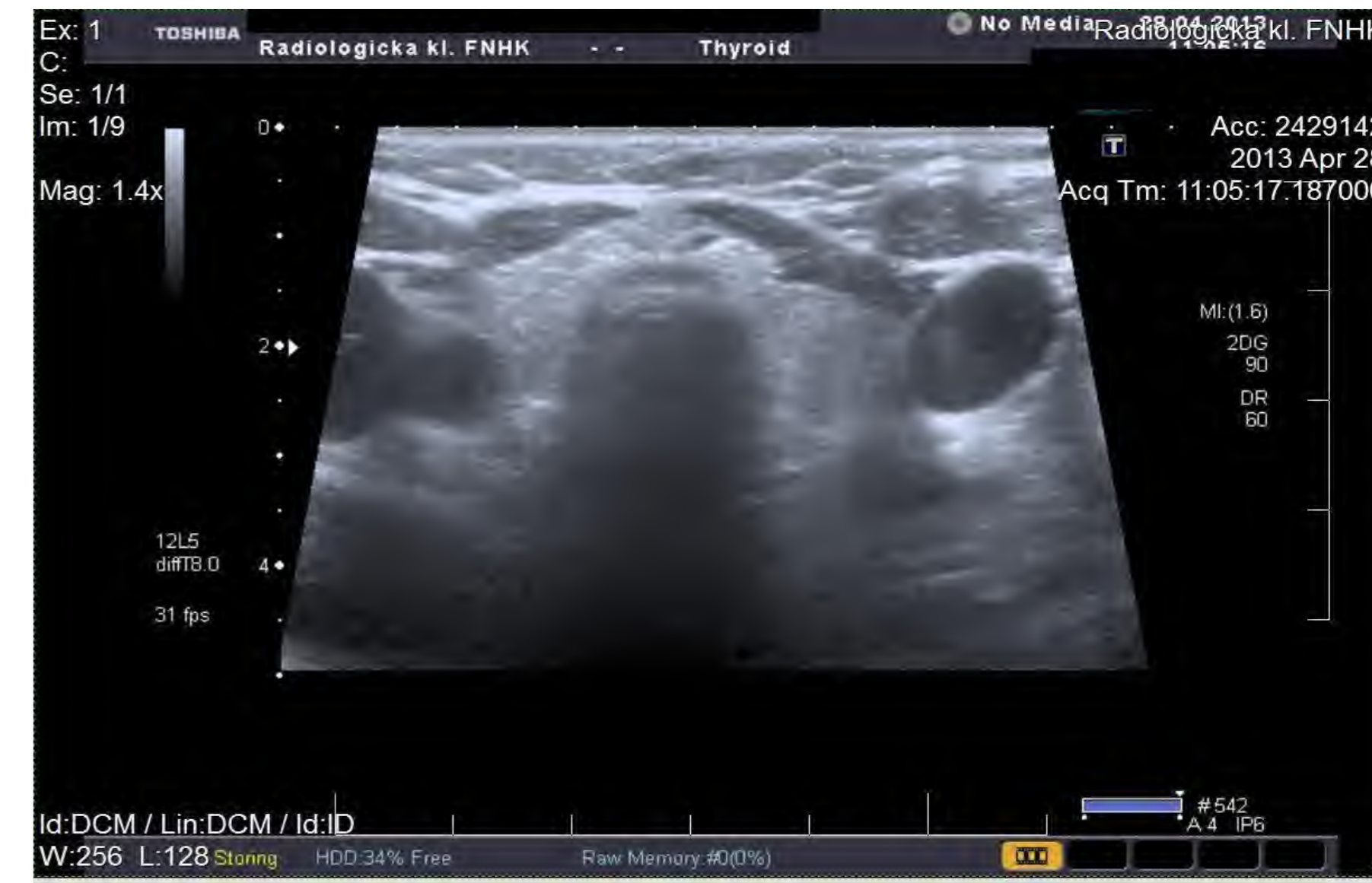


Fig. 2 Ultrasonography of thyroid and parathyroid glands

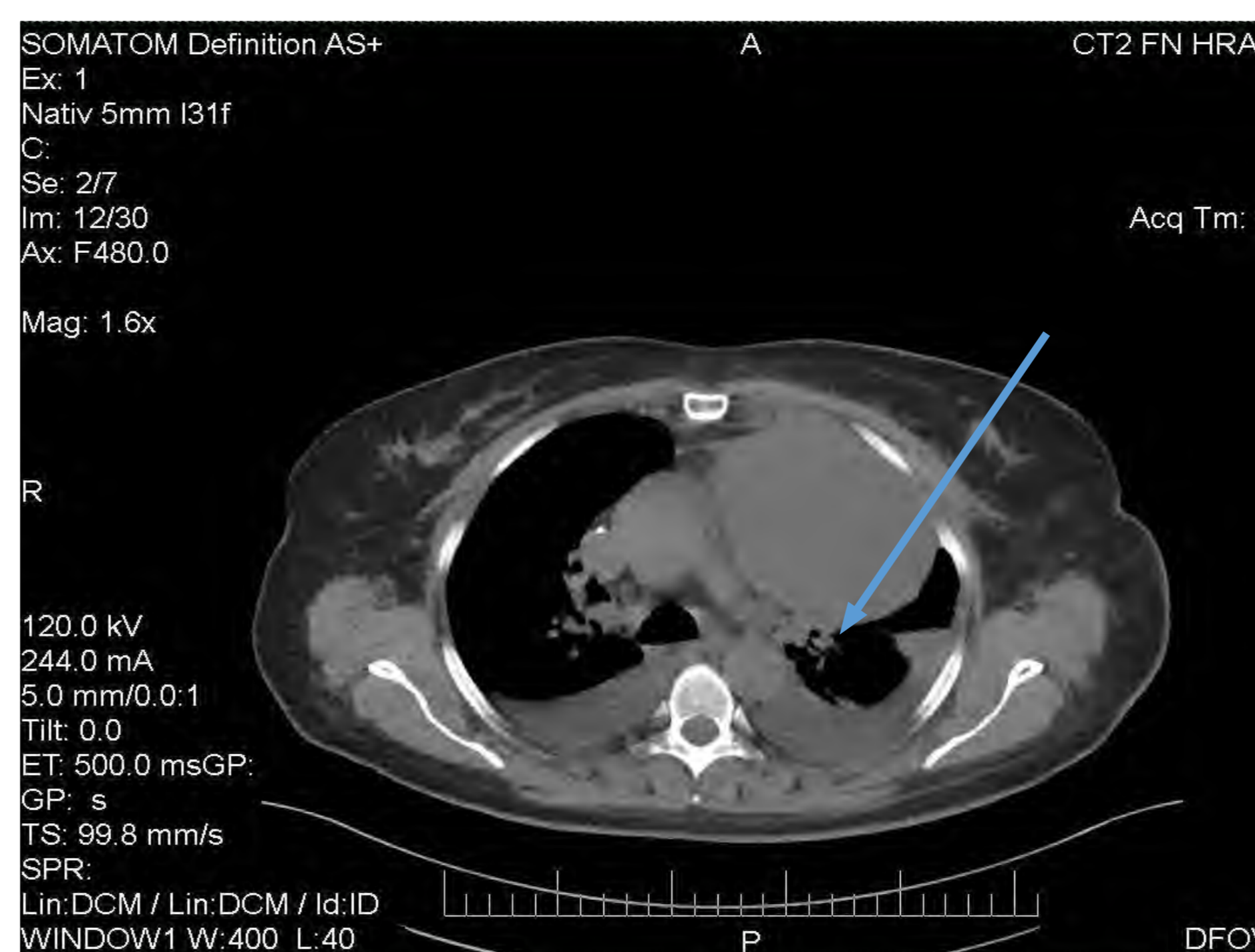


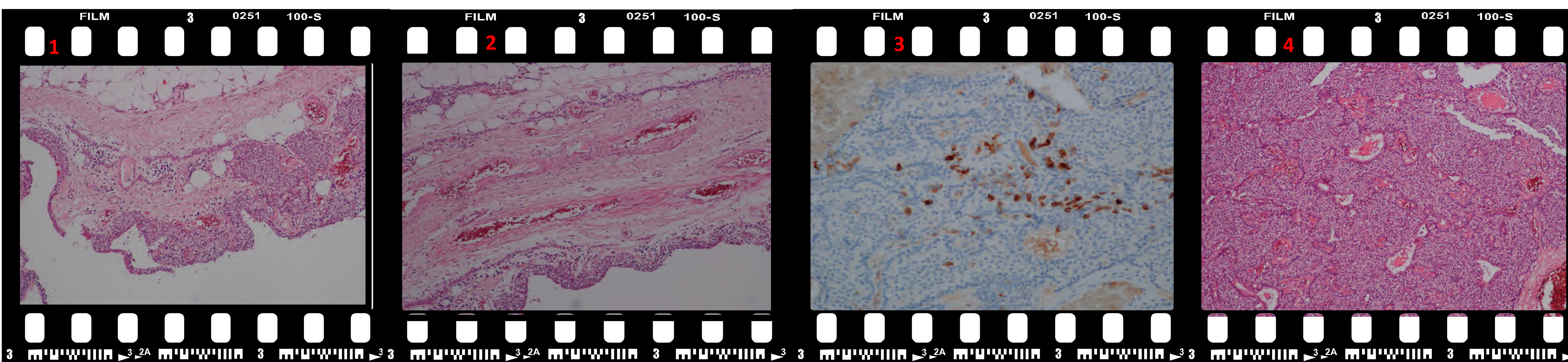
Fig. 3 Chest computer tomography with contrast – transversal image



Fig. 4 Chest CT with contrast – coronary image

The situation suddenly became complicated with pancreatitis, symptoms from compression by large cyst and recurrent fever. Her calcium levels were only transiently stabilized after treatment with Cinacalcet (Mimpara) and Calcitonin.

A neck ultrasound (Fig.2), neck MRI and 99mTc_MIBI scintigraphy were with negative results. We performed again puncture of the cyst, but the PTH level in the cyst fluid was lower (4173 pg/ml) than in serum (6915 pg/ml, normal range 13–50). When our patient became stable, without fever after antibiotic treatment, we performed left lateral thoracotomy with extirpation of the cyst. Parathyroid adenoma with cystic degeneration with residual atrophic thymic tissue was confirmed by histological examination.



1 + 2 cyst of parathyroid gland and residual atrophic thymus tissue

3 positivity of chromogranin – mosaic positivity is characteristic for parathyroid gland
4 Main parathyroid gland mass

The serum calcium and also PTH are normalized after the surgery without any treatment and our patient is doing well.

Conclusion

We are presenting rare case of primary hyperparathyroidism caused by parathyroid adenoma with cystic degeneration, localized in mediastinum. Diagnostic of cyst in this localization can cause pitfalls

