

A 36-year-old woman with a parathyroid cyst

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Abstract

Background: Parathyroid cysts are rare entities. They account for less than 0.5% of parathyroid lesions. They are divided into two main groups: functioning and non-functioning.

Case description: We present a 36-year-old woman with complaints of palpitations, sweating, and nervousness of about 2 months' duration. From an ultrasound of the thyroid gland with data on anechoic formation under the lower pole of the left lobe of the thyroid gland with dimension 14/16/24 mm. Fine needle aspiration (FNA) of the formation was performed with aspiration of about 5 ml of clear liquid and examination of washout. PTH from the washout of the extrathyroidal lesion-1040 pg/ml. A month later with ultrasound data on recurrence of the formation; repeated aspiration of about 5 ml of blood fluid was performed with subsequent application of 1 ml of absolute alcohol intranodal.

Conclusion: Thirty days after the procedure with ultrasound data of slight regression in the dimension: 10/11/20 mm.

Keywords

alcohol ablation, aspiration, FNA, parathyroid cyst

Introduction

Parathyroid cysts (PCs) are relatively rare lesions, which account for less than 0.5% of parathyroid lesions and for 1% to 5% of neck masses (Silverman et al. 1986; Delaunay et al. 1990; Lerud et al. 1996; Cappelli et al. 2009; Ciuni et al. 2010; Arduc et al. 2015). In 1880; Sandström made the first description of PC, whereas the first surgical excision of PC was reported in 1905. (Sandström et al. 1879; Goris 1905; Grunberg et al. 2011) PCs can be subdivided into 2 main categories - functioning and nonfunctioning, depending on their hormonal activity. In most cases, they are asymptomatic and are only found incidentally. We reported a case of nonfunctional parathyroid cyst with result after alcohol sclerotherapy a month later.

Case description

A 36-year-old woman was admitted to our clinic having complained of palpitations, sweating, and nervousness of 2 months' duration. She has a medical history of autoimmune thyroiditis- euthyroid phase, diagnosed several months beforehand. She also has a family history of thyroid problems.

Initial laboratory tests disclosed the following values: Calcium total-2.47 mmol/l /2.15–2.60/, ionized-1.26 mmol/l /1.16–1.32/; PTH(1–84)-25.80 pg/ml /5.50–38.40/; Phosphorus-1.21 mmol/l /0.81–1.45/; Magnesium-0.84 mmol/l /0.65–1.10/;25 (OH)vit.D-33.7 nmol/l; FT3–3.98 pmol/l /3.20–6.80/; FT4-14 pmol/l /12–22/; TSH-3.8 /0.30–4.2/, TAT-215 /up to 115/;

MAT-231 /up to 34/; TRAB<0.80. From a performed ultrasound of the thyroid gland with data on an anechoic formation under the lower pole of the left lobe of the thyroid gland with dimension 14/16/24 mm (Fig. 1). From performed SPECT-CT with 99 m-Tc-MIBI without data of focal hyperfixation in neck and mediastinum; SESA-TA-MIBI negative lesion under left thyroid lobe-probably parathyroid cyst.

FNA of the formation was performed with aspiration of about 5 ml of clear liquid and examination of washout. PTH from the washout of the extrathyroidal lesion-1040 pg/ml /5.5–38.4/. From cytological result- 1,2-aspirate represented by lysed erythrocytes.

3-material represented by a colloid without cellular representation. FNA of the formation was performed with aspiration of about 5 ml of clear liquid and examination of washout. PTH from the washout of the extrathyroidal lesion-1040 pg/ml /5.5–38.4/. From cytological result- 1,2-aspirate represented by lysed erythrocytes. 3-material represented by a colloid without cellular representation. Due to the recurrence of the formation one month later, repeated aspiration with subsequent application of 1 ml of absolute alcohol was performed. Thirty days after the procedure from a control ultrasound with data of slight regression in the dimension: 10/11/20 mm (Fig. 2).

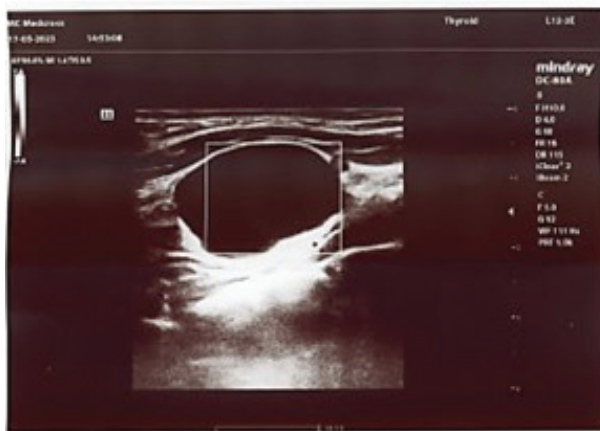
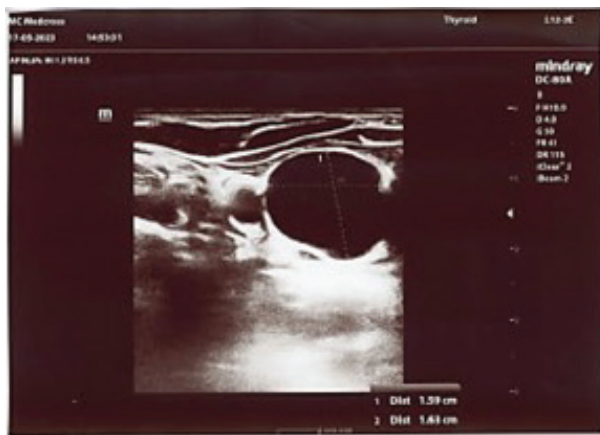


Figure 1. Ultrasound image of the formation under the left lobe of the thyroid gland.

Figure 2. Ultrasound image of the formation 1 month after sclerotherapy.

Discussion

Parathyroid cysts are uncommon clinical entities, located in the neck and mediastinum. It seems PCs have a female predilection with a female to male ratio: 3.5:1. (Silverman et al. 1986) and greatest frequency in the fourth and sixth decades. (Wirowski et al. 2008) PCs can be subdivided into 2 main categories: functioning and nonfunctioning, according to their hormone producing activity (Pinney and Daly 1999). There are multiple theories about the origin of parathyroid cysts. Non-functional parathyroid cysts are believed to develop from merging of parathyroid microcysts, as remnants of the third or fourth branchial cleft, or as vestigial remnants of the fetal Kursteiner canals (Okamura et al. 1992; Varaldo et al. 2001). Functional parathyroid cysts (FPC) are also known as cystic parathyroid adenomas because of the belief that they may arise from cystic degeneration or hemorrhage into an existing adenoma (Khan et al. 2012; El-Housseini et al. 2017). The main imaging techniques that are used for the diagnosis of PCs are ultrasound, technitium radionuclide scintigraphy (Tc-scintigraphy), CT scan and MRI. (Varaldo et al 2001) In our study, we performed an ultrasound examination and SPECT-CT with 99 m-Tc-MIBI. Ultrasound examination is easily performed and it reveals the cystic nature of the mass and its dimension. It can be combined with FNA aspiration fluid, which was done in the presented case and we estimated an extremely high level of PTH from the washout. This is the initial treatment of PCs. In

1992, Okamura et al. suggested the injection of sclerosants as an alternative treatment of PCs. (Okamura et al. 1992) This technique was especially used in case of a recurrence of PCs after FNA in order open surgery. We also decided to use sclerotherapy with ethanol as an alternative method for our patients as we reported a reduction of the size by almost 20% by following up a month after the procedure.

Conclusion

Cystic lesions located under the lower pole of the thyroid gland should be considered to have originated at the parathyroid gland. Cystic aspiration with PTH detection can be definitely diagnosed. Sclerotherapy is still a common and effective treatment.

Declaration of interest

The authors declare that there is no conflict of interest that could be perceived as prejudicing the impartiality of the research reported.

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