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Short Communication

An Uncommon finding of a Parathyroid lesion.

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Description

A 71- year- old Caucasian woman was admitted for hypercalcemia (3,15 mmol/l), discovered in the context of peritoneal carcinomatosis of unknown primitive. Laboratory evaluation revealed a primary hyperparathyroidism with an increased PTH level (176 pg/ml), whereas PTHrp was not detectable. Cervical ultrasonography showed a nodular formation of the right superior parathyroid gland (P4), which was well defined, hypoechoic, surrounded by a bright interface and located behind the thyroid (figure 1). There were no morphological abnormalities apparent in the other 3 parathyroid glands. An exploratory cervicotomy was performed with respectively excision of the right and biopsy of the left superior parathyroid gland (P3). Macroscopically, the right P4 gland was enlarged, weighing 992 mg and appeared as round or oval well – circumscribed mass with orange – brown cut surfaces. Extemporaneous histological examination was compatible with parathyroid adenoma. On definitive histological examination, parathyroid parenchyma was dense, compact, devoid of fat cells and showed a peripheral condensation of fine collagen fibers. The epithelial components are of regular size with eosinophilic or clear cytoplasm. These are arranged in trabeculae and microvesicular architecture can also be found focally. Besides, there are several nodular formations with undefined borders. These nodules are composed of cordlike arrangement of neoplastic cells that demonstrated hyperchromatic and eccentric nuclei, sometimes nucleolated, giving the appearance of "signet ring cells" (figure 2A). Those neoplastic cells often demonstrated mucus secretion (Alcian Blue +) (figure 2B) and were negative for PTH immunostaining (figure 3A). These features were highly suggestive of a secondary location of a mucosecreting adenocarcinoma within a parathyroid adenoma. Additional immunohistochemical

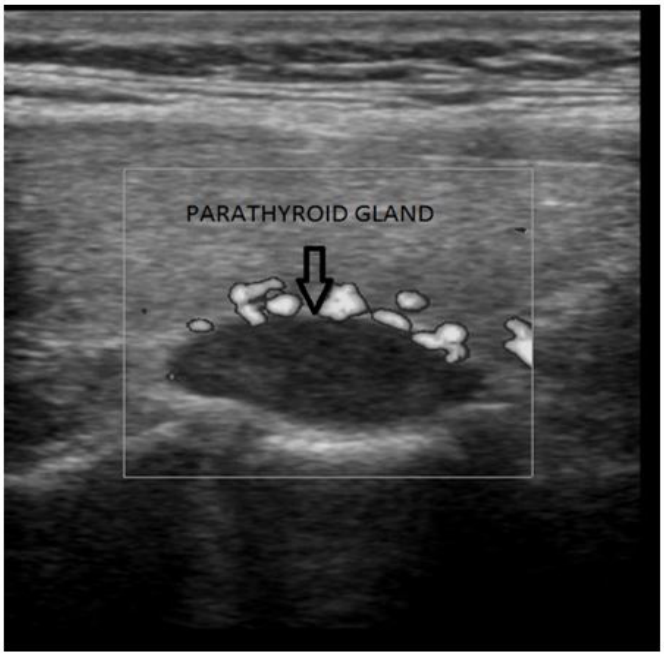

Figure 1: *Cervical ultrasonography, sagittal section : well defined and hypoechoic parathyroid gland, increased in volume and surrounded by a bright interface.*

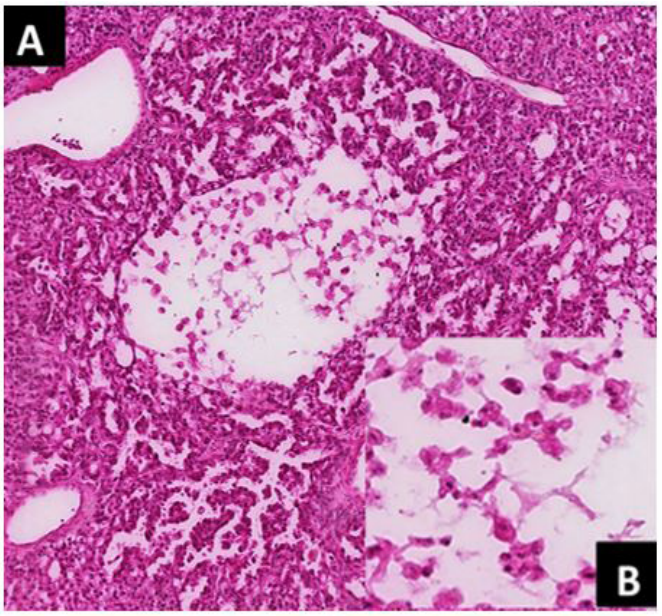

Figure 2: *A. Cordlike arrangement of neoplastic cells that constitutes as well a nodule with undefined border within a compact and trabecular pattern of parathyroid gland. (HESx200). B. Mucosecretory neoplastic cells with hyperchromatic and often peripheral nuclei that have « signet ring appearance». (HESx400).*

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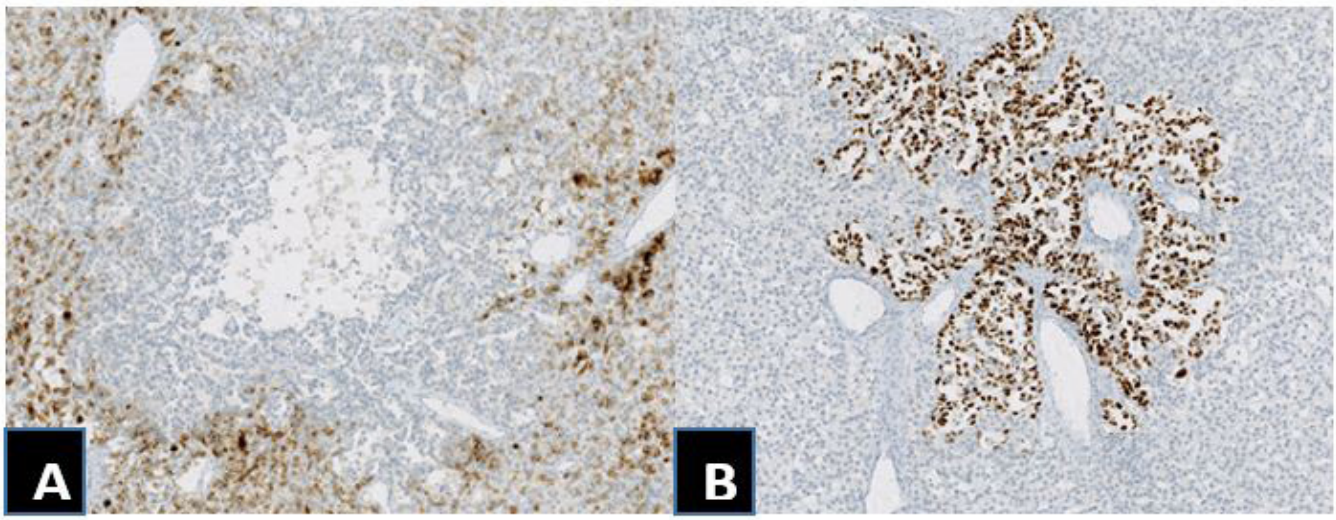

Figure 3: *A. Negative staining of neoplastic cells with anti-PTH antibody (x100). B. Intense and diffuse positive staining of neoplastic cells with anti-TTF1 antibody (x100).*

markers were performed in order to determine the primary tumor. Immunohistochemical features of tumor cells are as follow : CK7+, CK19+, RE-, RP -, CK20 -, Thyroglobuline -, TTF1+ (figure 3B) and are compatible with a primary pulmonary origin. The chest CT angiography reveals the presence of several intra-parenchymal nodules, found in both lungs, that could also confirm the pulmonary origin of the parathyroid lesion.

Parathyroid represents an exceptional site of metastasis. Parathyroid metastases are detected as incidentally findings at autopsy [1]. They are found very rarely as isolated and occured most often (97, 8%) in the context of a multi metastatic advanced cancer [2]. The most common primary cancers are breast cancer (66,9%), cutaneous melanoma (11,8%), and lung cancer (5%). Metastases from soft tissue cancer as well as kidney cancer and leukemia are also found in rare cases. Malignant tumors of adjacent organs, especially those of thyroid gland and larynx can also directly invade into the parathyroid and should not be ignored [2-5]. In our case, histological findings revealed a secondary location of lung cancer that remained unknown until then and explain the etiology underlying primary hyperparathyroidism.

References

1. Bauer JL, Toluie S, Thompson LDR. Metastases to the Parathyroid Glands: A Comprehensive Literature Review of 127 Reported Cases. Head Neck Pathol. 2017 Sep
2. Benisovich VI, Rybak BJ, Ross FA. A case of adenocarcinoma of the lung associated with a neck mass and hypercalcemia.Cancer.1991Sep; 68:1106-110
3. Venkatraman L, Kalangutkar A, Russell C F. Primary hyperparathyroidism and metastatic carcinoma within parathyroid gland. J Clin Pathol. 2007 Sep; 60 (9): 1058 – 1060.
4. Terrogressa L, Rotondo MI, Insilla CA, Galleri D, Guidoccio F, Miccoli P, Livolsi VA, Basolo F. Metastasis of renal cell carcinoma to the parathyroid gland 16 years after radical nephrectomy: A case report. Oncol Lett. 2016 Nov; 12(5):3224-28. Epub 2016 Aug 31.
5. Fulcini F, Pezzulo L, Chiofalo MG, et al. Metastatic breast carcinoma to parathyroid adenoma on fine needle cytology sample: report of a case. Diagn Cytopathol. 2011; 39: 681-5.