Case report

Multiple bone metastasis from an initially missed diagnosed follicular thyroid carcinoma in thyroid lobectomy 5 years earlier: A case report.

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Abstract

Case: A 53-year-old woman underwent right thyroid lobectomy 5 years ago, which was initially diagnosed as benign goiter. She developed her hip pain with osteolytic lesions both hips and multiple bone metastases. The pathology of iliac bone biopsy was adenocarcinoma with TTF-1 and Thyroglobulin positive, suggesting thyroid carcinoma of high possibility.

Keywords : Missed diagnosis, Follicular thyroid carcinoma, Bone metastasis, Skull metastasis

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Introduction

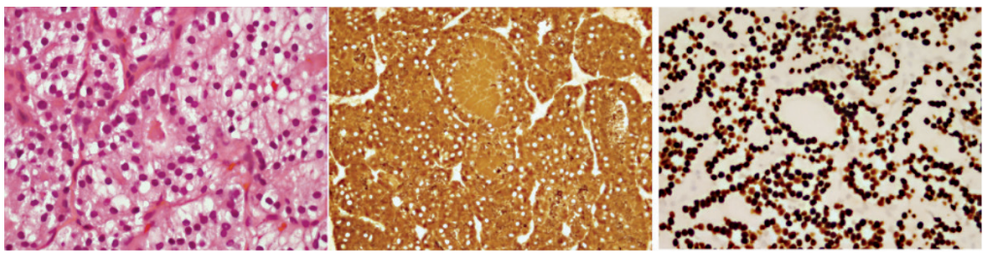
Follicular Thyroid Carcinoma (FTC) is the second most common form of differentiated thyroid carcinoma (DTC). Rarely, FTC presents with aggressive and widely metastatic disease. Because of a wide spread of hematogen, FTC has a higher risk of distant metastases as compared to papillary thyroid carcinoma (PTC). Thus it has a worse prognosis than PTC. The common locations of metastasis are lung and bone, while skull metastasis is less common. There were a small number of cases reported in literature skull metastasis as the presenting clinical of an occult follicular thyroid carcinoma.[1-4] We present a case of FTC, presenting with multiple bone metastases at 5-year after thyroid lobectomy which was initially diagnosed as benign tumor.

Case report : A 53-year-old woman presented with proximal muscle weakness of lower limbs and loss of sensation below T4 level for 2 weeks. Five years ago, she underwent right thyroid lobectomy and the pathology was reported as benign. The original slides, however, could not be reviewed since the surgery was performed in another hospital. She noticed a slow growing, painless left skull mass which had developed for 2 months as shown in Figure 1.

Figure 1 Left parietal skull mass.

She also had right hip pain and neck pain with right arm radicular pain for 1 year. In this visit, the x-ray showed osteolytic lesions both hips and multiple bone metastases were detected by bone scan.

The pathology of right iliac bone biopsy was reported as adenocarcinoma. Then the patient was extensively worked up for primary cancer including CT scan of the chest with whole abdomen, endometrial biopsy, gastrointestinal endoscopic examination, and thyroid ultrasonography.All investigations were negative for any primary cancer.The thyroid ultrasonography showed normal appearing of the remaining left lobe, no any lesion in right thyroid bed and no any significant cervical lymphadenopathy. After repeated pathologic review and additional immunohistochemistry was done, the tumor was positive to TTF-1 and Thyroglobulin (Tg) staining as shown in Figure 2, suggesting that the primary cancer was thyroid carcinoma.



(a) (b) (c)

Figture 2 H&E (a) and Immunohistochemistry staining of iliac bone specimen confirmed positive to Tg (b) and TTF1 (c), representing thyroid cancer in origin.

Completion thyroidectomy was done and the patient was sent to receive radioactive iodine therapy (RAI) for bony metastases treatment.

Discussion

FTC have been categorized as either minimally invasive or widely invasive. The widely invasive subtype has higher risk of metastases and the metastases are the most common cause of death in thyroid cancer patients.[5] Distant metastases in patients with minimally invasive FTC are much less common. Our case presented with multiple bone metastases with occult primary cancer, making it a diagnostic challenges in clinical practice.

Since the diagnosis of FTC requires the demonstration of capsular or vascular invasion, cytological examination alone is insufficient to establish a definitive diagnosis.[6] Minimally invasive FTC has limited capsular or vascular invasion, while the widely invasive subtype has widespread infiltration of adjacent thyroid tissue and blood vessels.[7] Extensive pathological examination of multiple sections is required to avoid underdiagnosis of the tumor as follicular adenoma.[8] The skull is a very rare site of metastasis and presenting as a palpable scalp tumor. The diagnosis of a metastatic lesion can be challenging, particularly in the case of an occult primary tumor. The special immunohistochemistry staining is very helpful in some cases to confirm the diagnosis of primary tumor site.

DTC patients with bone metastases always had a grim 25% 10-year survival.[9] So, accurate diagnosis of FTC is very important for definitive treatment and metastasis prevention. Missing diagnosis of FTC is the nightmare for pathologist and clinician, because of the undertreatment for FTC would increase the risk of distant metastases.

In our case, the patient presented with a chief complaint related to metastatic disease. With extensive workup led us to suspect the underdiagnosis of minimally invasive FTC 5 years prior to the metastatic disease. The unusual presentation delayed the diagnosis and thus delayed the treatment for the patient.

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Potential conflicts of interest. All authors report no conflicts of interest relevant to this article.

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บทคัดย่อ

การแพร่กระจายมาที่กระดูกของมะเร็งต่อมไทรอยด์ชนิดฟอลลิคูลาร์ซึ่งพลาดการวินิจฉัยมะเร็งหลังผ่าตัดต่อมไทรอยด์เมื่อ 5 ปีก่อน

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รายงานกรณีผู้ป่วยหญิง อายุ 53 ปี ตรวจพบเป็นมะเร็งต่อมไทรอยด์ระยะแพร่กระจายไปกระดูกหลายตำแหน่ง เนื่องจากมีอาการปวดสะโพกและมีก้อนที่ศีรษะ ซึ่งเมื่อ 5 ปีก่อนผู้ป่วยรายนี้เคยได้รับการผ่าตัดต่อมไทรอยด์ออกหนึ่งข้าง และผลชิ้นเนื้อรายงานเป็นคอพอกชนิดไม่ใช่มะเร็ง ครั้งนี้ผลการตรวจชิ้นเนื้อจากกระดูกเชิงกรานพบเซลล์มะเร็งไทรอยด์แพร่กระจายมาที่กระดูก ซึ่งตรวจยืนยันได้ด้วยการย้อมพิเศษ พบว่าเนื้อเยื่อมะเร็งติดสีของ TTF-1 และ thyroglobulin ผู้ป่วยจึงได้รับการผ่าตัดเอาต่อมไทรอยด์ที่เหลืออีกข้างออกทั้งหมด ก่อนได้รับการกลืนแร่เพื่อรักษา จะเห็นได้ว่าเป็นตัวอย่างกรณีที่พลาดการวินิจในครั้งแรก มีผลเสียคือ ทำให้ผู้ป่วยไม่ได้รับการรักษาแบบมะเร็งได้อย่างถูกต้องเหมาะสมและมีโอกาสเกิดการแพร่กระจายไปอวัยวะอื่น

คำสำคัญ : มะเร็งไทรอยด์, แพร่กระจายไปกระดูก, แพร่กระจายไปกระโหลก, การวินิจฉัยผิดพลาด