SPONTANEOUS REGRESSION OF PRIMARY PAPILLARY MICROCARCINOMA THYROID AFTER METASTASIZING TO RIGHT SUPRACLAVICULAR AND CERVICAL LYMPH NODES

Muhammad Mumtaz Khan1, Ghulam Saqulain2, Sabeen Nasir1, Naveed Sharif1

1Peshawar Medical College, Peshawar (Ripah International University, Islamabad), Pakistan
2Capital Hospital, Islamabad, Pakistan

ABSTRACT

Objective: Papillary microcarcinoma thyroid is a rare focus of malignancy within normal thyroid or in adenomatous colloid goiter. Our aim is to bring to focus the possibility of papillary microcarcinoma thyroid presenting as lymph node metastasis without thyroid enlargement.

Case report: We present a case who initially reported with a small cystic to nodular swelling in the right supraclavicular lymph node. The biopsy revealed it to be lymph node showing metastatic papillary carcinoma thyroid. Clinically there was no enlargement of the thyroid gland. Thyroid function tests, neck ultrasound and thyroid scan were normal. Therefore, a diagnosis of metastatic papillary microcarcinoma thyroid was made. Another lesion appeared in the right cervical region after six months having identical morphology as earlier case. Again, a battery of tests were performed including neck ultrasound and thyroid scan which were normal. TTF-1 immunohistochemical stain was strongly positive in both the cases which confirmed thyroid their origin. The patient did not opt for surgery; however, there was no recurrence after more than 10 years follow up.

Conclusion: The possibility of papillary microcarcinoma thyroid as a metastatic lesion in a lymph node biopsy must be kept in mind even in the absence of thyroid enlargement.

Keywords: Papillary microcarcinoma thyroid, Lymph node metastasis, Spontaneous regression.

This case report can be sited as: Khan MM, Saqulain G, Nasir S, Sharif N. Spontaneous regression of primary papillary microcarcinoma thyroid after metastasizing to right supraclavicular and cervical lymph nodes. Pak J Pathol. 2016; 27(4): 178-182.

INTRODUCTION

According to the World Health Organization (WHO) microcarcinoma thyroid are defined as a focus malignancy of 10 mm diameter or less present within normal thyroid or adenomatous colloid goiter [1]. They are not detectable clinically. Usually they are discovered incidentally (thyroid incidentalomas) on ultrasound or MRI and the majority of them are papillary microcarcinoma thyroid (PMCT). Most PMCT have an excellent prognosis. They may present as palpable lymphadenopathy in the head and neck region. Even in very small PMCT with a diameter less than 1 mm, nodal metastases have been described [2]. A PMCT measuring 4 mm manifesting as a single bone lesion in left 4th rib has been described [3]. The detection of papillary microcarcinoma of the thyroid is increasing due to frequent use of ultrasound and fine-needle aspiration cytology. The average prevalence of PTMC is around 10% with a wide range 2.0–35.6%; moreover PMCT patients represent up to 30% of all thyroid carcinomas [4]. Anastasilakis AD et al., after an extensive review of the literature on the subject, determined that PMCT as lymph node metastasis typically presents at a relatively younger age compared to the rest of metastatic malignancies in the head and neck region. The mean age of the reviewed cases was less than 40 years, while PMCT without a clinically evident lymph node metastasis (LNM) presents at a mean age of 45-52 years. These differences probably reflect the more aggressive behavior of PMCT presenting as LNM, which may arise at a similar age but become apparent earlier than the remaining PMCT [5]. Thyroid cancer in general and papillary carcinoma thyroid (PCT) in particular are more
Spontaneous regression of primary papillary microcarcinoma thyroid after metastasizing to right supraclavicular and cervical lymph nodes

common in women, with a reported ratio of 3:1; in PMCT series, females represented 70-89% of the cases. However, in cases of PMCT presenting as an enlarged lymph node, female predominance is considerably lower. This may also be related to the abovementioned aggressiveness of PMCT presenting as LNM, as PCT is more aggressive in men [5].

In a retrospective study to determine the predictive factors for lymph node metastasis in papillary microcarcinomas it was found that a tumor size of 5 mm or more, extrathyroidal extension, multifocality, sclerosis and the expression of S100A4 and cyclin D1 predicted lymph node metastasis. It was also pointed out that S100A4 expression may discriminate between ‘more aggressive forms’ and clinically silent papillary microcarcinomas [6].

Microscopically it has all the characteristics of papillary carcinoma thyroid, i.e., branching papillae having a fibrovascular stalk covered by a single to multiple layers of cuboidal epithelial cells and nuclei having optically clear or empty appearance and invaginations of the cytoplasm that may be seen as intranuclear inclusions ("pseudo-inclusions") or intranuclear grooves [7].

The aim of the article is to change our diagnostic approach in dealing with patients who report for chronic lymphadenopathy in the head and neck region and to keep the possibility of PMCT in mind even though the thyroid gland itself may be normal in appearance and on imaging. We here present lymph node metastasis by papillary microcarcinoma thyroid first in the right supraclavicular lymph node followed by right cervical lymph node followed by spontaneous regression of the primary.

CASE REPORT
A 29 years old adult male was admitted on 07-04-2004, to the ENT Department of Capital Hospital, Islamabad, Pakistan, with a swelling right side lower neck for the last 03 years. Examination revealed a nodular swelling firm in consistency and measuring 4x3 cm in size above the sternal end of right clavicle between the sternal and clavicular heads of sternocleidomastoid muscle. The swelling was non-fluctuant and lacked signs of inflammation. There was no pulsation or bruit. Clinically there was no other lymph node enlargement and thyroid was normal in appearance.

Routine investigations were all normal. Keeping in view a high incidence of tuberculous lymphadenopathy, Mantoux test and fine needle aspiration cytology (FNAC) were advised. Mantoux test was not significant. The FNAC revealed clumps of monomorphic epithelial cells arranged mostly in papillary configurations along with scattered lymphocytes. A diagnosis of metastatic papillary lesion was made and biopsy was advised.

The mass was excised under general anesthesia. Using a horizontal supraclavicular incision, the mass was exposed after cutting through skin, subcutaneous tissue and deep fascia under general anesthesia. Gentle blunt dissection from surrounding tissue revealed grayish white cystic swelling measuring 3x2 cm with origin from the lymphatics around the internal jugular vein. The cyst leaked draining chocolate colored fluid on attempting to remove it. The sample was sent for histopathological examination. Recovery was uneventful and the patient was discharged on second post op day.

Grossly it was a nodular soft tissue mass measuring 3x1.5x0.5 cm. The consistency was soft and the cut surface was grayish white, friable containing small cystic spaces filled with papillary projections. Microscopically the normal architecture of lymph node was totally obliterated due to formation of small cystic spaces filled with papillary projections and lined by neoplastic cells with empty nuclei (Figure-1).
Spontaneous regression of primary papillary microcarcinoma thyroid after metastasizing to right supraclavicular and cervical lymph nodes

The patient was examined systematically. No abnormality could be detected on systemic examination. Clinically there was no enlargement of thyroid gland. Thyroid function tests (TFTs) were within normal range. Thyroid ultrasound and thyroid scan were normal. Other otolaryngologic and endoscopic examinations were normal. A TTF-1 positivity on immunohistochemistry (IHC) confirmed the primary to be thyroid (Figure-4).

Keeping in view these findings, the diagnosis was revised as “papillary microcarcinoma thyroid with metastasis to right supraclavicular lymph node”. After about 6 months on 03-09-2004 the patient reported with another swelling in the right cervical region close to parotid. The biopsy revealed identical morphology as before with TTF-1 positivity on IHC and a diagnosis of “papillary microcarcinoma thyroid metastatic to right cervical lymph node” was made. Again, a battery of tests were performed including neck ultrasound and thyroid scan which were normal. The patient did not opt for surgery. The patient was followed up for more than 10 years. He was last examined on 15-07-2015 and did not reveal any recurrence of the tumor or metastasis.

DISCUSSION

The above case highlighted the possibility of numerous differential diagnoses of enlarged lymph
nodes in the head and neck region. The majority of lymph node presentations in the head and neck in our region turn out to be tuberculous, reactive or out rightly metastatic with the primary either known or easily discovered on investigations. The problems arise when the primary is not traceable as in our case which limits our approach to make decisions on clinical findings and microscopic appearance of the tumor in the metastatic lymph node.

The metastatic papillary carcinoma was diagnosed on first lymph node biopsy in the parotid region when the thyroid gland itself was normal in appearance. There have been reports of occult papillary carcinoma thyroid presenting as cervical lymphadenopathy. In one of the cases the primary focus was discovered after initial diagnosis on lymph node biopsy [2] and in the other two cases it was found on ultrasonography before biopsy [8]. In our case the metastatic papillary carcinoma was discovered incidentally without finding any primary focus in the thyroid even after investigations.

Garrel R et al., studied 13 cases of PMCT diagnosed on lymph node biopsy out of which 12 cases revealed a primary focus in thyroid, but in one case, no primary could be found even after detailed investigations [9]. Anastasilakis AD et al., reported a case of PMCT who presented as a solitary lymph node metastasis without evidence of primary tumor in thyroid imaging but multiple foci measuring 2-5 mm were discovered on histological examination of the total thyroidectomy specimen [5]. Ozdamar OI et al., also described a case which clinically appeared to be branchial cleft cyst but was diagnosed as PMCT with LNM on histopathological examination having two malignant foci measuring 2 and 4 mm diameter in the thyroid gland [1].

We believe that in our case the metastases to both the lymph nodes occurred at the same time but manifested at different intervals which were close together. The fact that the patient did not have any recurrence of the lesion highlights spontaneous regression of the primary focus. Many tumors especially renal cell carcinoma [10] lung cancer [11,12], thyroid carcinomas and malignancies in other organs [13,14] are known for spontaneous regression after metastases which also appears to be the case in our patient.

**CONCLUSION**

The possibility of papillary microcarcinoma thyroid must be kept in mind in a cervical lymph node biopsy even in the absence of thyroid enlargement.

**RECOMMENDATIONS**

Spontaneous regression of tumors is an area which has not been given due consideration. Demystifying the process of spontaneous regression by research aimed at factors responsible for it will enlighten us about treating and preventing cancer in a better way.

**AUTHORS CONTRIBUTION**

Muhammad Mumtaz Khan: Concept and manuscript writing

Ghulam Saqulain: Data collection

Sabeen Nasir & Naveed Sharif: Review

**REFERENCE**


Spontaneous regression of primary papillary microcarcinoma thyroid after metastasizing to right supraclavicular and cervical lymph nodes


