Dual synchronous primary malignancies involving thyroid and tongue: A rare case review

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Abstract

The existence of two synchronous primary cancers in anatomically distinct parts of body is extremely rare. Here we attended a patient who was a post operative case of Papillary Thyroid carcinoma coexisting with a left sided tongue lesion. We examined the patient clinically and reviewed all the reports. Also Reviewed the thyroid biopsy sample she had with her and confirmed it as well differentiated Papillary carcinoma. Biopsy sample from tongue lesion showed a well differentiated Squamous cell carcinoma. Planning of treatment is very confusing in such difficult situation.

Keywords: Field cancerization, squamous cell carcinoma, thyroid and tongue, thyroid transcription factor-1 (TTF-1)

Introduction

In 1953, Field cancerization was first described as histologically altered epithelium surrounding tumor samples from upper aerodigestive tract [1]. Although field cancerization is very common in head and neck region, two synchronous primary cancers in anatomically distinct organs involving thyroid and tongue is a rare phenomenon [2].

Case presentation

Our case was a 50 years old female, a post operative case of Papillary Thyroid carcinoma coexisting with a left sided tongue lesion. We examined the patient clinically and found a well healed surgical incision scar on neck and an ill defined white ulcerated lesion over left side of tongue (Figures 1 and 2). Pre operative MRI report was showing a large multi-septate cystic soft tissue mass in right side of neck (Figure 3). The lesion over left side of tongue was showing hyper-intense signal on T2W1 with some enhancement after contrast. There was no significant family history of cancer and radiation exposure of the patient in past. We reviewed biopsy sample of neck swelling and also examined biopsy sample from tongue lesion. Histopathological section from Neck swelling was showing well formed papillae with fibrovascular core (Figure 4). There was high N:C ratio, nuclei showed grooving (Figure 5). Section also showed psammoma bodies (Figure 6). It was a well dif-

ferentiated papillary carcinoma thyroid. Biopsy sample from tongue lesion was showing squamous cell carcinoma cells with well defined cell border, hard eosinophilic cytoplasm, High N: C ratio, pleomorphic nuclei with clumped chromatin. There is keratin pearl formation and these squamous carcinoma cells are infiltrating the underlying muscle. Mitotic figure also can be seen. We diagnosed it as well differentiated squamous cell carcinoma, infiltrating (Figures 7 and 8). Although both the malignancies are well differentiated, so we did not require any further investigation to confirm the diagnosis, but Thyroid transcription factor-1 (TTF-1) can be used as an Immune marker in poorly differentiated state to differentiate between these two malignancies. TTF-1 is positive in Papillary thyroid carcinoma but negative in squamous cell carcinoma.

Conclusions

Utmost care should be taken in diagnosing multiple primary malignancies to rule out metastasis or field cancerization for proper management. The mechanisms involved in the occurrence of multiple primary malignancies are not yet elucidated. Some factors such as family history, immunologic and genetic defects, prolonged exposure to carcinogens, and radiotherapy and chemical treatments have been implicated. Even though the majority of multiple primary cancers occur as a result of random chance, the family syndromes of tumors must always

Figure 1. Surgical incision scar on neck.

Figure 2. Left sided tongue lesion.

Figure 3. MRI Neck.

Figure 4. Papillary Thyroid carcinoma (well formed papillae with fibrovascular core).

Figure 5. Papillary Thyroid carcinoma (Cells lining the papillae have high Nucleus Cytoplasmic ratio, nuclei with grooves).

Figure 6. Psammoma body.

Figure 7. Squamous cell carcinoma cells infiltrating muscles, Nuclei with clumped chromatin.

Figure 8. Squamous Cell Carcinoma (Malignant keratin pearl).

Acknowledgement

Authors would like to thank all the faculty members of department of pathology, CNCI for their guidance.

Publication history

EIC: Gaetano Giuseppe Magro, University of Catania, Italy.

Received: 08-Dec-2015 Final Revised: 14-Jan-2016

Accepted: 25-Feb-2016 Published: 01-Mar-2016

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Citation:

Singh J, Mandal GK and Singh AP. **Dual synchronous primary malignancies involving thyroid and tongue: A rare case review.** *J Histol Histopathol.* 2016; **3**:2.
<http://dx.doi.org/10.7243/2055-091X-3-2>

be considered [3].

Competing interests

The authors declare that they have no competing interests.

Authors' contributions

Authors' contributions	JS	GKM	APS
Research concept and design	✓	✓	--
Collection and/or assembly of data	✓	--	✓
Data analysis and interpretation	✓	✓	--
Writing the article	✓	--	--
Critical revision of the article	✓	✓	✓
Final approval of article	✓	✓	✓
Statistical analysis	--	--	--