Thyroid Carcinoma Presenting as Frozen Shoulder: A Case Report

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Introduction

- The purpose of this poster is to report and discuss a peculiar case of a 63-year-old male who consulted for left shoulder immobility and was diagnosed as a case of metastatic papillary thyroid carcinoma.
- Thyroid malignancy is the most common endocrine cancer and is generally considered as indolent, easy to treat, and curable.
- Survival rate of patients with differentiated thyroid carcinoma is 80-95% but this significantly decreases to 13-21% when bone metastasis is present.
- Only 2 other case reports describing thyroid carcinoma presenting as a humeral mass have been published.
- Thyroid carcinoma with bone metastasis usually arise with occult clinical manifestations leading to delay in diagnosis and appropriate management.

Case Report

<table>
<thead>
<tr>
<th>Age/Sex</th>
<th>63/M</th>
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<tbody>
<tr>
<td>Nationality</td>
<td>Filipino from Laguna, Philippines</td>
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<tr>
<td>Complaint</td>
<td>Left shoulder immobility</td>
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</tbody>
</table>
| Physical Exam | No clinical thyromegaly
No palpable thyroid nodules
Limited range of motion and pain on left shoulder |
| Radiograph | Mass on left humerus |
| Magnetic Resonance Imaging | Lytic non-geographic mass on the proximal shaft of the humerus ~8.0 x 4.9 x 4.5 cm |
| Incision Biopsy | Well Differentiated Carcinoma, Metastatic, Consistent with Thyroid Primary |
| Immunohistochemistry | TTF-1 and thyroglobulin positive for metastatic adenocarcinoma with a thyroid primary |
| Thyroid Scan | Normal sized glands with possible cold nodules |
| Thyroid Function Tests | Normal |
| Thyroid Ultrasound | Hypervascular thyroid gland with multiple nodules, largest of which was a complex nodule measuring 1.66 x 1.22 x 1.03cm on the right upper pole |
| FNA of Thyroid | Colloid Goiter |
| Whole Body Scan | Large osteolytic focus on the left humerus with surrounding inflammatory or reparative osseous process |
| Final Thyroid Histopathology | Papillary Carcinoma |

Intervention/Treatment

- **Surgical excision of locoregional disease in potentially curable patients**
- **Radioactive Iodine Therapy**
- **External Beam Radiation**
- **TSH-suppressive thyroid hormone therapy**
- **Systemic therapy**

Discussion

Most cases of bone metastasis are found in follicular thyroid carcinoma and is rare in papillary thyroid carcinoma. In this case, a thyroid pathology was not immediately entertained due to the initial presentation of left humeral mass. The treatment for our patient is written below in accordance to the 2015 American Thyroid Association guidelines for differentiated thyroid carcinoma:

1. **Surgical excision of locoregional disease in potentially curable patients**

2. **Radioactive Iodine Therapy**

3. **External Beam Radiation**

4. **TSH-suppressive thyroid hormone therapy**

5. **Systemic therapy**

Conclusion

Diagnosis of a differentiated thyroid carcinoma can be made despite no evidence of a primary tumor.

It is important to consider a primary thyroid malignancy in cases of new bone lesions where there is no evident primary source of malignancy since differentiated thyroid carcinomas have a propensity to metastasize to the bones.

A multidisciplinary team of health care professionals is needed to properly manage such cases.

References