Journal Homepage: - www.journalijar.com
INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)
Article DOI: 10.21474/IJAR01/1949
DOI URL: http://dx.doi.org/10.21474/IJAR01/1949
ISSN NO. 2320-5407

RESEARCH ARTICLE

A RARE CASE OF HURTHLE CELL NEOPLASM WITH MALIGNANT PLEURAL EFFUSION.

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Manuscript Info

Manuscript History

Received: 12 August 2016
Final Accepted: 22 September 2016
Published: October 2016

Abstract

Malignant serous cavity effusion caused by primary thyroid cancer is extremely rare in routine clinical practice. Therefore, it is often not included in the differential diagnostic workup of patients presenting with positive effusion cytology. Hurthle cell carcinoma (HCC), a variant of a follicular carcinoma of the thyroid, is an aggressive type of differentiated thyroid cancer now considered a distinct pathologic entity. It may present as a low-grade tumor or as a more aggressive type. Pulmonary metastasis of thyroid cancer has been well documented. However malignant pleural effusion with hurthle cell neoplasm of thyroid has been rarely reported.

Background:-

Malignant serous cavity effusion caused by primary thyroid cancer is extremely rare in routine clinical practice. Therefore, it is often not included in the differential diagnostic workup of patients presenting with positive effusion cytology. Hurthle cell carcinoma (HCC), a variant of a follicular carcinoma of the thyroid, is an aggressive type of differentiated thyroid cancer now considered a distinct pathologic entity. It may present as a low-grade tumor or as a more aggressive type. There are several case reports of pulmonary metastasis of thyroid cancer but malignant pleural effusion with hurthle cell neoplasm of thyroid have been rarely reported (1).

Description of case:-

A 47yr diabetic housewife was referred to pulmonary medicine opd with symptoms of breathlessness and chest pain since last two months. She was previously diagnosed to have pleural effusion and pleural aspiration was done by local physician. She was prescribed ATT. On examination there was diminished movement on left side chest with absent breath sound. Physical examination showed nodular goitre in neck. CXR revealed moderate pleural effusion (fig.1). Pleural aspiration showed hemorrhagic effusion with ADA-71.5 U/L,protein-7.0gm/dl,glucose-240mg/dl, LDH-1780IU/L, centrifuged cytology was lymphocyte rich, atypical cells were present in a background of inflammatory cells and blood elements. All the blood parameters were within normal range except Hb-7.5gm%, raised FBS(212mg%) and PPBS(308mg%), T3 and T4 levels were normal but TSH level was elevated (7.66mIU/ml). USG of chest, abdomen and pelvis showed moderate pleural effusion and gr-1 fatty liver. FNAC of thyroid revealed Hurthle Cell Neoplasm (fig.2). (Monomorphic cell population with loosely cohesive cells, abundant granular cytoplasm and eccentric placed nuclei.) CECT of chest showed loculated effusion with pleural thickening and passive collapse of lung parenchyma (fig.3).

BRONCHOSCOPY and BAL did not reveal any pathological changes. THORACOSCOPY showed nodular lesion in left parietal pleura from which biopsy was taken. Histopathology revealed metastatic adenocarcinoma in pleura (fig.4). (There were small clusters of neoplastic epithelial cells arranged in irregular tubular manner and presence of neoplastic hobnail shaped epithelial cells.)

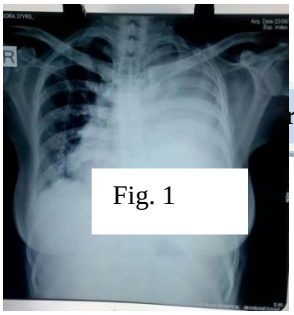
Fig. 1

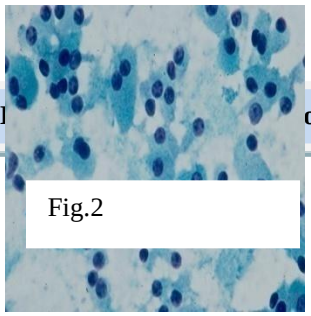
Fig.2

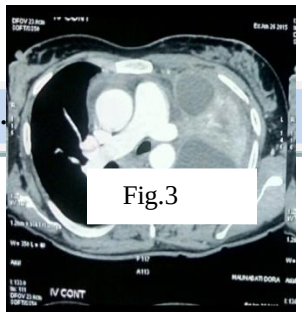
Fig.3

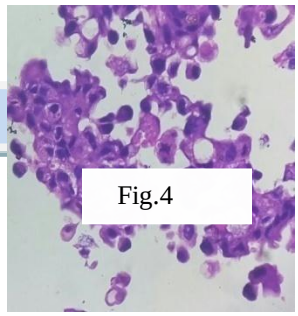
Fig.4

Result:-

The case was diagnosed as hurthle cell neoplasm of thyroid with malignant effusion and referred to radiotherapy dept. for further management.

Discussion:-

By definition, a Hurthle cell neoplasm is an encapsulated tumor consisting of at least 75% Hurthle cells (2). Hurthle cell neoplasms can be classified further as benign Hurthle cell adenomas or malignant HCCs. The two entities are distinguished on the basis of the identification of capsular or vascular invasion or the presence of metastatic disease (3,4). HCC reportedly behaves in a more aggressive manner than other well-differentiated thyroid cancers, with a tendency to higher incidence of metastasis and a lower survival rate (3,4). In general the annual incidence of thyroid cancer in various parts of the world is 0.5-10 cases per 100,000 populations. Approximately 3-10% of these cases are Hürthle cell carcinomas. Hürthle cell cancer has the highest incidence of metastasis among the differentiated thyroid cancers. Metastatic disease is reported at the time of initial diagnosis in 10-20% of patients and in 34% of the patients overall. Metastasis usually occurs hematogenously, but lymph node metastasis is also not uncommon and typically involves the regional lymph nodes (5). The patient in the present study had pleural metastasis without any radiological evidence of pulmonary metastasis. There are no standard treatment recommendations for such patients (6). Pleural metastasis is associated with a very poor prognosis; the median overall survival following the appearance of a pleural metastasis is less than a year (7).

Conclusion:-

Pleural metastasis complicates the clinical course of patients with wide range of malignancies. Examples of pulmonary metastasis from thyroid carcinoma are well documented but malignant pleural manifestation of a hurthle cell neoplasm is extremely rare. Detailed evaluation of the effusion is therefore mandatory to establish etiology and further management plan. So malignant effusion from hurthle cell malignancy can be considered as a d/d of exudative lymphocyte rich hemorrhagic effusion though rare.

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