

Rare Case of Mantle Cell Lymphoma Presented as Malignant Pleural Effusion and Pleural Nodules

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Introduction: Mantle cell lymphoma is a relatively uncommon type of B cell non-Hodgkin lymphomas (NHL), it comprises about 7 percent of adult NHL in the United States and Europe with an incidence of approximately 4 to 8 cases per million persons per year. Most patients have advanced stage disease at diagnosis, presenting with lymphadenopathy, with only 25 percent present as extranodal disease such as gastrointestinal tract, breast, and orbit. Pleural involvement reported only in about one percent of cases.

Case Presentation: 53 year old male with past medical history of obesity and hypertension presented to the hospital with two weeks history of flank pain and shortness of breath. Chest X-ray revealed left sided pleural effusion. Computed tomography (CT) of the chest confirmed the effusion and also showed nodular pleural thickening. Computed tomography (CT) of the abdomen and pelvis showed left renal mass and multiple soft tissue masses with one measuring up to 4.5 cm on the right flank. Pleural fluid that was obtained by thoracentesis was noted to be bloody and exudative (LDH: 750 Units/L, Protein 4.7 g/dL, Glucose 12 mg/dL, Lymphocytes 70%). The cytology result of the pleural fluid was consistent with lymphoma. Medical thoracoscopy was done which demonstrated pleural nodularity and adhesions. Multiple pleural biopsies were obtained. Neoplastic cells obtained from the pleural biopsies stained positively for CD20, CD5, and CD10, cyclin D1 and SOX11. Cytogenetic FISH evaluation completed on the pleural fluid revealed an IgH/CCND1 variant translocation, and TP53. Simultaneously, the neoplastic cells identified within the biopsies taken from the left renal mass and right flank soft tissue mass were similar in histomorphology to the neoplasm identified in the pleural samples. Cerebrospinal fluid flow cytometry was consistent with central nervous system involvement. All the immunophenotypic and cytogenetic findings were consistent with a mantle cell lymphoma. Treatment plan included Cytarabine, Methotrexate, and CAR T-Cell therapy.

Discussion: Although pleural involvement is not uncommon in many types of lymphoma, it is rarely reported to be involved in mantle cell lymphoma which is on its own considered a rare form of B-cell non-Hodgkin lymphomas (NHL). We report a case of advanced stage lymphoma presented with malignant pleural effusion and direct involvement of the pleural space. The main treatment modality

consist of combination chemotherapy plus immunotherapy (ie, chemoimmunotherapy) with or without high dose therapy and hematopoietic cell transplantation (HCT).