ALK Positive Large B-cell Lymphoma of the Stomach: A Case Report and Review of the Literature

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Background : ALK positive large B-cell lymphoma (LBCL) is very rare, with less than 100 cases so far been reported. ALK+ LBCL occur predominantly in lymph nodes with occasional extranodal involvement. To our knowledge, only six cases with ALK+ LBCL in the gastrointestinal tract have been reported before. The present case represents the second example of primary gastric ALK+ LBCL.

Methods: We review the electronic medical record of the patient. We review the previously reported cases of a gastrointestinal origin.

Results: A gastric mass was incidentally detected in a 45-yr-old woman and endoscopic biopsy was taken. Computed tomography scan showed a 6x5cm ulcerative mass in the body of great curvature with perigastric infiltration and adjacent 3-4 enlarged lymph nodes. A positron emission tomography-computed tomography scan showed no evidence of disease elsewhere. Histological examination showed a diffuse infiltrate of monomorphic large immunoblast-like B cells, sometimes with plasmablastic differentiation. Tumor cells were immunoreactive for ALK (granular cytoplasmic staining). The PCR-based assay for IGH and IGK gene rearrangement revealed clonal results. Fluorescence in situ hybridization with break apart probes showed translocation at the ALK locus at 2p23.

Conclusions: Immunophenotyping showed the tumor cell to be a post-germinal center B cell with plasma cell differentiation characterized by the absence of B-cell antigens. We underscore the very unusual tumor location and discuss the potential pitfalls of histological diagnosis. Tumor cells can appear deceptively cohesive and thus may be misinterpreted as carcinoma cells. Furthermore, the tumors may be positive for cytokeratin but negative for LCA. ALK+ LBCL can also be confused with other hematologic and nonhematologic neoplasms.