Esophageal Large Cell Neuroendocrine Carcinoma: An Unique Consult Case from China and Lessons Learned

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Background
For years, we have conducted telepathology consultation for cancer patients from China. Major discrepancies in diagnosis were identified in all cases. Herein, we focus on one unique case of esophageal large cell neuroendocrine carcinoma to illustrate differences in pathology practice patterns between American and Chinese pathologists.

Case summary
A 60-year-old Chinese man received an esophagoscopy biopsy and was diagnosed with “esophageal squamous cell carcinoma” at a Chinese municipal hospital. Subsequently he underwent esophagectomy following neochemo-radiation therapy at a top Cancer Hospital in Beijing, with pathology rendering a diagnosis of “adenocarcinoma of esophagus” but no confirming Immunohistochemical Stain (IHC) and no specific pTNM staging in final report. Six months later, he developed pathological fractures and multiple subcutaneous nodules, which were biopsied at a Provincial Cancer Hospital and diagnosed as “neuroendocrine carcinoma, small cell type”. The tumor progressed, and the patient died within three months. Given the dissimilar diagnoses made by three different hospitals, the materials were sent to us by patient’s family for consultation and review.

Results
After reviewing the medical history, reports, and available slides, additional confirmatory IHC stains were performed. We found all three biopsies and surgical specimens were consistent with “a poorly differentiated esophageal large cell neuroendo-
The major diagnostic discrepancies observed between the American and Chinese Hospitals for this case consisted of (1) misinterpretation of the biopsy specimens and IHC stains; (2) oversimplification of the pathology report and absence of pTNM staging; (3) a lack of review of prior medical history/reports as well as a failure of comparison to previous biopsies.

**Conclusion**

These findings provide guidance on steps needed to improve the pathology care rendered in China and highlight valuable elements of American pathology practice. Key elements include uniform training and evaluation of practicing pathologists, the use of standardized reporting templates inclusive of prognostic indicators, and the value of intra-institutional communication between pathologists.