Investigation of prognostic factors of pancreatic neuroendocrine tumors and establishment of surgical treatment strategy

Wooil KWON

Department of Surgery, Seoul National University Hospital, Korea

Lecture : Pancreatic neuroendocrine tumor (PNET) is relatively rare tumor comprising 2~4% of all pancreatic neoplasms. These tumors are known to have borderline characteristics that may display wide range of behaviors from benign to malignant. Because of this borderline characteristic, some PNETs require aggressive approach including surgical resection and some may be sufficient with surveillance.

According to the consensus guideline from the European Neuroendocrine Tumors Society (ENETS), the prognostic factors are reported to be distant metastasis, tumor grade, age over 40, margin status, acute progression of liver metastasis, bone metastasis, lymph node (LN) metastasis, and LN ratio. However, these reports are based on observatory studies from small populations.

With the prognostic factors unclarified, the current treatment algorithms are only based on size and no other prognostic factors. Furthermore, size itself was never shown to be a strong prognostic factor and the evidence for using size as a criterion to establish treatment strategy is very weak.

Therefore, a study to investigate the clinicopathologic factors and search for prognostic factors based on large and reliable cohort is in need. After establishing the prognostic factors, these may be used as clinical parameters to guide us to establish treatment strategy. Moreover, depending on the risk factors, the extent of surgery in terms of radicality and LN dissection may also be suggested.

In order to conduct the investigation, a retrospective multicenter study was conducted supported by the Korean Association of Hepato-Biliary-Pancreatic Surgery. 921 patients from 14 tertiary centers with specialized pancreatic surgeons and pathologists were included for the investigation.

Through this large multicenter cohort, univariate and multivariate analysis was performed to assess the prognostic factors for recurrence. Based on the observed prognostic factors and other relevant clinicopathologic factors, an algorithm to guide treatment strategy was established.