Surgical Insight for Pancreatic Endocrine Tumor Based on National Taiwan University

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Background: The incidence of pancreatic neuroendocrine tumors (PNET) is increasing in past 30 years. However, the experience of each hospital, esp. in Asia country, is rare. In recent years, several studies from western countries suggested small PNET (<= 2 cm) could be followed up with no need of resection. The optimal management about this issue is still controversial. So the purpose of this study is to share our experience of management of PNET, and analyzed the parameters to predict early recurrence. We further re-appraised whether the policy of "non-operative management for small PNET" is optimal.

Methods: The clinicopathologic profile, surgical findings, and postoperative followup were retrospectively collected for patients with resectable PNET from Mar. 1995 to Mar. 2013. The end of followup was Dec. 2014. We statistically analyzed recurrence pattern and identified the independent predictors.

Results: There were totally 126 PNET patients with mean age 52.7 years old. Only 19.8% of patients have functional PNET symptoms. The median size of tumor was 2.55 cm. Most of tumors (73%) located at neck, body or tail. The no. of each grading is G1 86, G2 37, and G3 3. The no. of AJCC staging is IA:52 IB:19 IIA:20 IIB:14 III:1 IV: 20. We found 8.8% of small PNET (< =2 cm) was G2 lesion, and 5.3% of small PNET has LN mets. G1 PNET has 8.1% with regional LN mets. The median recurrence free survival is 19.7 mon. 17.14% of patients has recurrence. The present of PNET symptoms, symptomatic duration, and old age do not correlate with earlier recurrence. Operative methods (open vs laparoscopic) does not correlate with recurrence. By Kaplan-Meier estimates, AJCC staging predicted recurrence well. After multivariate analysis, the independent predictors of recurrence are G grade, regional LN mets, and positive margin.

Conclusion: G grade, regional LN mets, and positive margin are the independent predictors of earlier recurrence. Small PNET or G1 PNET has non-negligible proportion of regional LN mets. We recommend all PNET including small PNET should be resected and regional LN dissection should be performed.