## Symposium V

## Surgical Management of Ampullary Tumors

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Since 1935, pancreatoduodenectomy (PD) has been used as the treatment of choice for periampullary tumors.<sup>1</sup> For the treatment of ampullary cancer, Beger et al.<sup>2</sup> reported that an oncological resection of ampullary cancer by means of PD is the surgical procedure of choice; the 3- and 5-year survival rates were 72% and 52%, respectively. As a non-invasive treatment, transduodenal resection (TDR) is usually indicated in patients with high operative risk. However, most surgeons have no great desire to try local resection of ampullary tumors, because of high recurrence rate and non-established criteria of management. Recently, endoscopic papillectomy (ESP) has been accepted as an alternative therapy to surgery in ampullary adenoma. According to some studies, the criteria of tumor size for endoscopic papillectomy are up to 4-4.5 cm.<sup>3,4</sup> As described above, the strategies of management for ampulla adenoma are expanding, nevertheless, the criteria for it's surgical management have not yet been established.

Ampullary adenoma is well known as a premalignant lesion because of adenoma-carcinoma sequence, similar to colonic cancer. However, the coexsistence of carcinoma within the adenoma can not be excluded by pre-procedural biopsy. Moreover, the false negative rate of endoscopic biopsy for cancer has been reported to be high, ranging from 11.7% to 60%.<sup>2,5,6</sup>

There is no clear consensus for the management of pre-HGD, because some authors fear of both high coexistence of cancer and high recurrence. Meneghetti et al.<sup>7</sup> and Heidecke et al.<sup>8</sup> reported the rate of coexistence of cancer in patients with pre-HGD as 100% and 44%, respectively. For recurrence of pre-HGD in 12 patients with benign lesions, 3 patients with moderate or high grade dysplasia encountered recurrence. In general, the presence of HGD on preoperative biopsy would make surgeons to decide a pancreaticoduodenectomy. In our previous study,<sup>9</sup> pre-procedural HGD was associated highly with both coexistence of cancer and recurrence. Therefore, we suggested that patients with pre-procedural HGD should undergo pancreatoduodenectomy, if they do not have high operative risk.

In fact, the size criteria of management for ampullary adenoma have not yet been established at both departments of surgery and gastroenterology. In our previous study, the results of analysis of tumor size showed that large (>1.5 cm) tumor may be considered as HGD/cancer, and tends to be treated by surgery rather than endoscopic management. Although our size criteria are too small, nevertheless, it can be a safe recommendation to surgeons for management of presumptive ampullary adenoma.

Some authors have recommended transduodenal resection with intraoperative frozen section for small benign lesions, because the morbidity and mortality of PD are high. Moreover, Beger et al.<sup>2</sup> and Grobmyer et al.<sup>10</sup> reported no recurrence after TDR for ampullary adenoma with HGD. Although one study advocated the presence of recurrence after TDR, it may be acceptable for ampullary adenoma with HGD.11 However, the results of intraoperative frozen biopsy are variable, therefore, may not be reliable. Roggin et al.<sup>12</sup> reported that conversion to PD should be considered when intraoperative or final pathology identifies adenocarcinoma after transduodenal ampullectomy. If intraoperative frozen biopsy did not reveal cancer whereas postoperative result was cancer, the patient should undergo re-laparotomy. Therefore, the endoscopic papillectomy may be useful not only for more accurate diagnosis prior to surgery, but also for curative therapy of ampullary tumors.

In conclusion, the characteristiscs of patients with pre-procedural HGD included high coexistence of cancer and high recurrence rate, and the large tumor was associated with both surgical management and ampullary cancer. Moreover, ampullary tumors of more than 1.5 cm in size increase the possibility of HGD or cancer by approximately three times. Therefore, we recommend PD or TDR in patients who were diagnosed with ampullary adenoma with pre-procedural HGD or more than 1.5 cm in size.

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