Case series of papillectomy by endoscopic retrograde cholangiopancreatography (ERCP)

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Abstract

Ampullary neoplasms are one of the causes of obstructive jaundice. Endoscopic retrograde cholangiopancreatography (ERCP) is useful procedure for diagnosing and tissue sampling of ampullary neoplasms. Ampullectomy by resecting entire ampulla provides whole lesion for pathologic evaluation and also is appropriate for real pathologic staging for further management decision but ampullectomy considered as a heroic endoscopic procedure. We share our experience in this field and explain our results.

Keywords: Ampullary neoplasm, Endoscopic retrograde cholangiopancreatography

Introduction

Ampullary neoplasms are common cause of obstructive jaundice. Cross sectional imaging like CT scan has only 20 percent sensitivity for diagnosis of ampullary neoplasms. Endoscopic ultrasonography is useful for diagnosing and staging of ampullary neoplasms but it only has 70 percent accuracy for tissue sampling by FNA. ERCP is a gold standard procedure for diagnosing and tissue sampling of ampullary neoplasms. The endoscopic retrograde cholangiopancreatography (ERCP) is nearly 100 percent accurate when ampulla is grossly tumoral or ulcerated.

Gross appearance of ampulla is normal in 30 percent of ampullary neoplasms and physicians only suspect when it is causing obstructive jaundice or grossly prominent. The usual approach for tissue sampling in these lesions is biopsy after sphincterotomy. Even after sphincterotomy the sensitivity of biopsy is low and do not represent the pathology of entire ampulla and most of the times multiple ERCP and biopsy are required (1).

Ampullectomy by resecting entire ampulla provides whole lesion for pathologic evaluation and also is appropriate for real pathologic staging for further management decision.

As ampullectomy is a heroic endoscopic procedure that gastroenterologists hesitate to perform.

Endoscopic papillectomy (EP) is accepted nowadays as an alternative therapy to surgery in ampullary adenoma and has high success and low recurrence rates.

Endoscopic ampullectomy means the resection of the mucosa and submucosa of the duodenal wall, in attachment area of the ampulla of Vater, including the tissue around the bile duct and the pancreatic duct orifices (2,3).

The accepted criteria for Endoscopic ampullectomy include a size up to 5 cm, no evidence of malignancy on endoscopic findings, and no evidence of intraductal growth. These indications are in ongoing progress.

Although the endoscopic ampullectomy is a high-risk procedure, it has successfully replaced surgical intervention for benign or malignant papillary tumors. Moreover, the procedure is associated with lower morbidity and mortality in comparison with surgery and seems to be a preferable treatment option for small ampullary tumors without intraductal extension. When Endoscopic ampullectomy performed by an experienced physician, it can lead to successful eradication of tumor in up to 85% of patients with ampullary adenomas. Thus, it is an effective and safe modality and should be established as the first line therapy for ampullary adenomas (4-6).
Papillectomy by ERCP

Table 1. summarized data of patients.

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Presentation</th>
<th>Endoscopic findings</th>
<th>Pathology</th>
<th>Follow up</th>
</tr>
</thead>
<tbody>
<tr>
<td>63</td>
<td>Female</td>
<td>Icterus and itching</td>
<td>Prominent ampulla</td>
<td>Tubular adenoma with focal high-grade dysplasia</td>
<td>No tumor in control ERCP</td>
</tr>
<tr>
<td>69</td>
<td>Male</td>
<td>Icterus and itching and weight loss</td>
<td>Prominent ampulla</td>
<td>R/O Adenocarcinoma</td>
<td>In follow up</td>
</tr>
<tr>
<td>42</td>
<td>Female</td>
<td>Icterus and itching</td>
<td>Ampullary polyp</td>
<td>Tubulovillous polyp with low grade dysplasia</td>
<td>No tumor in control ERCP surgery</td>
</tr>
<tr>
<td>50</td>
<td>Male</td>
<td>Icterus</td>
<td>Prominent ampulla</td>
<td>Adenocarcinoma arising in tubular adenoma with invasion to muscularis propria</td>
<td>ERCP surgery</td>
</tr>
<tr>
<td>58</td>
<td>Female</td>
<td>Abdominal pain</td>
<td>Prominent ampulla</td>
<td>Chronic duodenitis</td>
<td>Pancreatitis as a side effect surgery</td>
</tr>
<tr>
<td>48</td>
<td>Male</td>
<td>Icterus</td>
<td>Tumor of ampulla</td>
<td>Well differentiated neuroendocrine tumor with invasion to duodenal wall</td>
<td>Ok</td>
</tr>
<tr>
<td>81</td>
<td>Female</td>
<td>Abdominal pain</td>
<td>Prominent ampulla</td>
<td>Hyperplastic polypl</td>
<td>In follow up</td>
</tr>
<tr>
<td>64</td>
<td>Female</td>
<td>Fever and icterus</td>
<td>Tumor of ampulla</td>
<td>Tubulovillous adenoma with focal high-grade dysplasia/T3N1 on EUS</td>
<td>In follow up</td>
</tr>
<tr>
<td>65</td>
<td>Female</td>
<td>Icterus and itching</td>
<td>Tumor of ampulla</td>
<td>Poorly differentiated adenocarcinoma</td>
<td>In follow up</td>
</tr>
<tr>
<td>55</td>
<td>Female</td>
<td>Icterus and itching</td>
<td>Tumor of ampulla</td>
<td>R/O Adenocarcinoma</td>
<td>In follow up</td>
</tr>
<tr>
<td>79</td>
<td>Male</td>
<td>Fever and weight loss and icterus</td>
<td>Prominent ampulla</td>
<td>Invasive adenocarcinoma</td>
<td>In follow up</td>
</tr>
<tr>
<td>70</td>
<td>Female</td>
<td>Icterus</td>
<td>Prominent ampulla</td>
<td>Well differentiated adenocarcinoma</td>
<td>In follow up</td>
</tr>
<tr>
<td>74</td>
<td>Female</td>
<td>Icterus</td>
<td>Prominent ampulla</td>
<td>Adenocarcinoma well to moderate differentiated</td>
<td>In follow up</td>
</tr>
</tbody>
</table>

Case series

Here we report the result of initial experience of our center in an ampullectomy procedure. In our center we have as first report of 13 patients and the main data are summarized in Table 1. Also you can see the ampulla after resection from one patient in Fig. 1.

Our experience in ampullectomy showed that it is a safe and practical approach for diagnosis and also treatment of ampullary neoplasms.

Discussion

In the case series of Shujiro T and his colleagues 80.9 percent of patients treated with single session of ampullectomy with various complications such as pancreatitis, cholangitis, retroperitoneal perforation and bleeding (7). Follow-up with surveillance should be performed within first 4 to 8 weeks after ampullectomy and should be continued for at least three years when the pathology report indicating a high-grade dysplasia. This is because of the possible recurrence of tumor during these years (8).

In other case series Between January 2008 and November 2011, 12 patients with ampullary tumors underwent endoscopic ampullectomy. The technique was endoscopic double-snare for all 12 patients. The ampullectomy of these patients was safe and complete (9-11).

It is standard practice in GI tract to proceed to resect entire lesions like polypoid lesions by simple snare polypectomy or by advance procedures like Endoscopic Mucosal Resection (EMR) or Endoscopic Submucosal Dissection (ESD). We suggest that these approaches also can be useful in ampullary neoplasms because it leads to good diagnostic and curative results with low side effects. The ERCP centers should have good experience with this procedure.

Conflict of Interests

The authors declare that they have no competing interests.

References


