CASE REPORT

Complete Endoscopic Resection of Very Early Stage Gastric Plasmacytoma

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Gastric plasmacytomas are very rare, and most are not detected until the disease has progressed to an advanced stage. However, there have been recent reports of cases of early-stage gastric plasmacytoma, in which neoplastic cells are confined to the mucosa or submucosa. Here we report a case of a very early stage gastric plasmacytoma that was confined to the lamina propria of the gastric mucosa. The lesion was successfully and completely removed by endoscopic submucosal dissection, and the surveillance endoscopy showed no recurrence during the follow-up of 40 months. This report appears to be the first documented case of complete endoscopic removal of a primary gastric plasmacytoma. (*Gut Liver* 2010;4:547-550)

Key Words: Plasmacytoma; Endoscopic submucosal dissection

INTRODUCTION

Gastric plasmacytomas are very rare, and most are not detected until the disease has progressed to an advanced stage.^{1,2} Therefore, surgical treatment or irradiation, with or without chemotherapy, has been the predominant therapeutic modality. However, cases of early stage gastric plasmacytoma, in which neoplastic cells are confined to the mucosa or submucosa, have recently been reported.³⁻⁵ Here, we report a case of a very early stage gastric plasmacytoma that was confined to the lamina propria of the gastric mucosa. This report appears to be the first documented case of complete endoscopic removal of primary

gastric plasmacytoma without relapse during 40 months of follow-up.

CASE REPORT

A 45-year-old woman was referred to our endoscopic center due to the presence of a slightly elevated yellowish mass on the antrum of the stomach, initially diagnosed as a granular cell tumor after routine endoscopic biopsy at the local clinic. She presented with epigastric pain for several days. Physical examination revealed no abnormal findings. The results of urinalysis, blood analysis, proteinogram, and blood chemistries were within normal ranges. For complete resection of the lesion as well as accurate histologic diagnosis, we performed an endoscopic submucosal dissection (ESD) because endoscopic ultrasound revealed the tumor was localized to the mucosal layer without submucosal invasion. After confirmation of a 1 cm-sized, small and flat superficial yellowish lesion, located on posterior wall of distal antrum (Fig. 1A), the margin of the lesion was marked by Hook knife (KD-620LR; Olympus Optical Co., Ltd., Tokyo, Japan) using coagulation current (60 W) (Fig. 1B). After submucosal fluid injection (normal saline), incision and dissection of the lesion using endocut mode (80 W) were attempted (Fig. 1C). En bloc resection was successfully completed without an event. The resected specimen consists of a dome shaped tissue, measuring 1.5×1.5×0.5 cm (Fig. 1D).

On microscopic examination of the resected specimen, infiltration of plasma cells into the lamina propria was observed, but did not extend deeply into the submucosal

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Fig. 1. Endoscopic submucosal dissection using a Hook knife. (A) Endoscopic view showing a flat lesion, yellowish in color, located on the posterior wall of the distal antrum after spraying with indigo carmine. (B) The margin of the lesion was marked by a Hook knife using a coagulation current of 60 W. (C) After injecting submucosal fluid, incision and dissection of the lesion were attempted using the endo-cut mode (80 W). (D) The resected specimen was a dome-shaped piece of tissue measuring 1.5×1.5×0.5 cm.

Fig. 2. Histologic features of the resected specimen. (A) Plasma cells had infiltrated the lamina propria of the mucosa but not into the submucosal layer (H&E stain, ×100). (B) Tumor cells showing abundant eosinophilic cytoplasm, perinuclear halos, and Dutcher (nuclear inclusion) bodies (arrow) (H&E stain, ×400). (C) Immunohistochemical staining demonstrates a dense infiltration of plasma cells in the mucosa that are positive only for κ light chains (Immunostaining, ×400). (D) The plasma cells were not stained with lambda chain (Immunostaining, ×400).

layer (Fig. 2A). The tumor cells showed abundant eosinophilic cytoplasm, perinuclear halos and Dutcher bodies (Fig. 2B). Also, a few *Helicobacter pylori* microbes were identified. Immunohistochemical stains demonstrated a dense infiltration of plasma cells in the mucosa, which were positive for kappa light chain, but negative for CD-68, cytokeratin, S-100, and lambda light chain (Fig. 2C and D). After histologic diagnosis of solitary gastric plasmacytoma, further laboratory tests were performed. Bence Jones protein and M protein were not detected. Serum immunoglobulin values were within normal limits. Skeletal radiologic survey did not show the presence of bone lesions, and abdominal computed tomography, as well as chest computed tomography, did not show the presence of tumor masses. Bone marrow biopsy examination revealed normal cellularity without monoclonality of plasmacytes.

Two, 14 and 40 months after endoscopic resection, endoscopy demonstrated only the presence of a scar at the site of ESD. The patient remained healthy without endoscopic or histologic relapse during 40 months of follow-up period after the initial diagnosis of primary gastric plasmacytoma, and abdominal and chest computed tomography, as well as bone scan, were done, but these studies did not show any additional tumor recurrence.

DISCUSSION

Plasmacytoma is an immunoproliferative monoclonal disorder of plasma cells. Primary extramedullary plasmacytoma account for approximately 4% of all plasma cell neoplasm. They have developed in any soft tissue, most frequently in the upper respiratory tract, and are defined as a localized collection of monoclonal plasma cells without plasma cell proliferation in the bone marrow.⁶ Primary gastric plasmacytoma accounts for approximately 5% of all extramedullary plasmacytomas.¹ Although most reported gastric plasmacytomas have been large and deeply infiltrating, ulcerative tumors, reports of early stage plasmacytomas confined to the mucosa or submucosa are becoming more common, because of the easy availability of endoscopic examinations.⁷

As gastric plasmacytoma frequently exhibits malignant potential and may progress to multiple myeloma, complete resection of the lesion is usually recommended with or without combination with irradiation or chemotherapy.⁸ Irradiation or chemotherapy has been the alternative therapeutic modality. It is still controversial whether or not *H. pylori* eradication is truly beneficial in the treatment of gastric plasmacytoma.^{6,9-13} In contrast to other cases, eradication therapy for *H. pylori* was not performed here.

Instead, ESD was performed for diagnostic and therapeutic purposes in this case.

Gastric plasmacytoma must be differentiated from mucosa-associated lymphoid tissue (MALT) lymphoma.^{14,15} In the present case, distinctive morphological features of MALT lymphoma, such as centrocyte-like cells, lymphoepithelial lesions, and reactive follicles were not found. Thus, this lesion was diagnosed as a very early stage gastric plasmacytoma demonstrating a superficial spreading growth pattern. Our exact diagnosis was due to acquisition of sufficient tissue by ESD procedure.

The patient remained healthy without medications during a total of 40 months follow-up after endoscopic removal. Therefore, for cases in which gastric plasmacytoma is confined to the mucosa and other sites are free from disease, we believe that endoscopic resection with close follow-up would be considered as a minimally invasive effective therapeutic strategy.

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