---Case Report---

GASTRIC PLASMACYTOMA WITH CYLINDRICAL CRYSTALLINE INCLUSIONS

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Summary

An 81 year-old female case of extramedullary plasmacytoma of the stomach is reported. Immunohistochemically, the tumor cells contained IgM-2 immunoglobulin. Electron micrographs of the tumor cells showed centrally located nuclei with nuclear inclusions and cytoplasm filled with crystalline inclusions in the rough endoplasmic reticulum. IgM-2 producing gastric plasmacytoma with cylindrical inclusions is rare.

Key Words: Cylindrical inclusion, Electron micrograph, Gastric plasmacytoma, IgM-2 immunoglobulin.

Introduction

The majority of plasmacytomas occur in the submucosa of the upper airway passages. Gastric plasmacytoma constitutes approximately 5% of all extramedullary plasmacytomas1-3). Although more than 60 cases of gastric plasmacytomas were reported4-9), electron microscopic studies have been performed in only a few cases10-12). We report here a case of gastric plasmacytoma in which electron microscopic studies demonstrated intracytoplasmic cylindrical crystals.

---Case Report---

An 81 year-old woman was admitted to our hospital with upper abdominal pain. Laboratory examinations showed no abnormalities except for a positive serologic test for syphilis. No abnormalities were found in the serum electrophoretic study. Skeletal X-ray and scintiscan patterns were normal. No protein was detected in the urine. Bone marrow examination showed a slight increase of plasma cells with normal appearances. Barium meal and endoscopy revealed diffusely thickened rugae and multiple ulcers in the antrum. Histological studies of biopsied specimens showed sheets of plasma cells in the antral mucosa. Subtotal gastrectomy was performed under the diagnosis of gastric plasmacytoma. The resected specimen showed edematous hypertrophy of the gastric wall and ulcerations in the antrum (Fig. 1). Histological studies showed diffuse infiltration of the lamina propria with plasma cells...
Fig. 1. A photograph of the resected stomach. The mucosal surface shows edematous hypertrophy and ulcerations in the antrum (arrow).

Fig. 2. Figs. 2 to 5 are the histological findings of the resected stomach. Diffuse infiltration of plasma cells destroyed the mucosal glandular structure. (H.E. x200)

Fig. 3. High power view of the infiltrating cells. The nuclei of infiltrating cells show the characteristic features of plasma cells, but their cytoplasm is filled with crystalline or globular inclusions. Some of them also have nuclear inclusions. (H.E. x1,000)

throughout the entire thickness of the wall (Fig. 2). Many of the plasma cells were filled with Russell bodies. Some of the plasma cells had inclusions in the cytoplasm or in the nuclei and showed morphological changes (Fig. 3). Eosinophilic and amorphous materials were deposited in the stroma (Fig. 4).

Immunological studies of this case were reported previously. Immunofluorescent studies on the tissue of the resected stomach showed that the plasma cells and the amorphous deposits between them were stained with anti-\( \mu \) and anti-\( \lambda \) antisera. Agar gel electrophoretic study revealed that the tumor homogenate contained the M-component,