

## Lipoma of the Stomach : A case report

Yasumasa KONDOH, R. Yoshiyuki OSAMURA\*, Jun-ichi HATA,  
Norikazu TAMAOKI\*, Teruji SUGITA, Toshio MITOMI,  
Masahiko MIWA\*\* and Tsuyoshi MIWA\*\*

*Department of Surgery, School of Medicine  
Tokai University*

*\*Department of Pathology, School of Medicine  
Tokai University*

*\*\*Endoscopic Center, School of Medicine  
Tokai University*

(Received June 27, 1977)

A 67 year old female was admitted to Tokai University Hospital with a one month history of recurrent epigastralgia. Upper gastrointestinal examination and gastric endoscopy showed a submucosal tumor in the stomach and subsequent distal two-thirds gastrectomy was performed. Pathological examination of the resected surgical specimen showed a submucosal lipoma of the stomach. Turkington reported 157 cases of gastric lipomas in the international literature. Nonami reported 80 cases of them in the Japanese literature. Although in Japan, epigastralgia was the most common symptom, there seemed to be no typical clinical characteristics. Pre-operative diagnosis of this submucosal tumor is difficult and usually patients undergo gastrectomy which is curative. Gastrotomy for tissue diagnosis followed by removal of the tumor is recommended in order to prevent a drastic operation for this benign tumor.

(Key Words : Gastric Lipoma, Benign Submucosal Tumor, Gastrotomy)

Gastric lipoma is rare and is usually a submucosal tumor located primarily in the distal portion of the stomach.(8) Gastric lipoma may be entirely asymptomatic if it does not cause obstruction or bleeding.(3) Hemorrhage due to ulceration of the mucosa and obstruction because of the increasing size of the tumor may occur. Our case report deals with a submucosal lipoma of the stomach with review of the literature and stresses the difficulty of pre-operative diagnosis.

### CASE REPORT

A 67 year old female was admitted to Tokai University Hospital complaining of intermittent epigastralgia of one month duration.

Physical examination on admission was not remarkable and abdominal palpation revealed no tender spot and no epigastric mass. Laboratory data on admission were also unremarkable.

An upper gastrointestinal examination revealed a marginal filling defect in the duodenal bulb of approximately 5×4 cm which suggested a pedunculated prepyloric polyp, almost incarcerated in the duodenal bulb. The surface of the polypoid mass was smooth. There was no ulcerative lesion (Fig. 1). Gastric endoscopy revealed a prepyloric polypoid lesion

with broad stalk which was covered by smooth gastric mucosa without ulceration (Fig. 2). Although no endoscopic biopsy was taken, the pre-operative impression was a probable malignant submucosal tumor.

Distal two-thirds gastrectomy and right half omentectomy with an end-to-end gastroduodenostomy were performed on 11th day after admission. The post-operative course was uneventful except for wound infection and the patient was discharged on the 19th post-operative day.

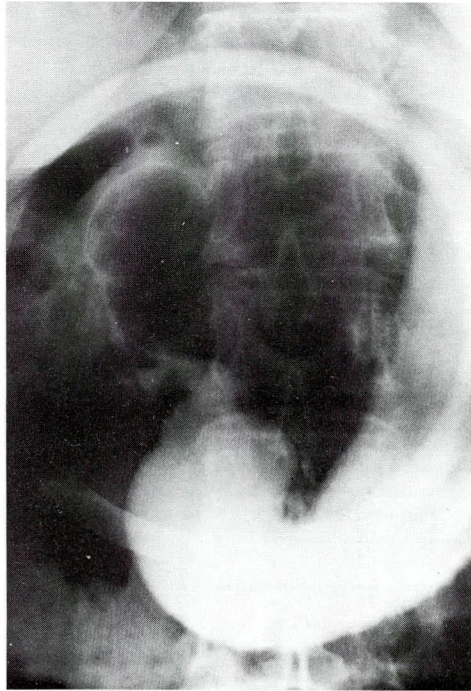


Fig. 1 The upper gastrointestinal examination revealed approximately  $5 \times 4$  cm marginal filling defect in the duodenal bulb which suggested a pedunculated prepyloric polyp almost incarcerated in the duodenal bulb. The surface of the polypoid mass was smooth. There was no ulcerative lesion.

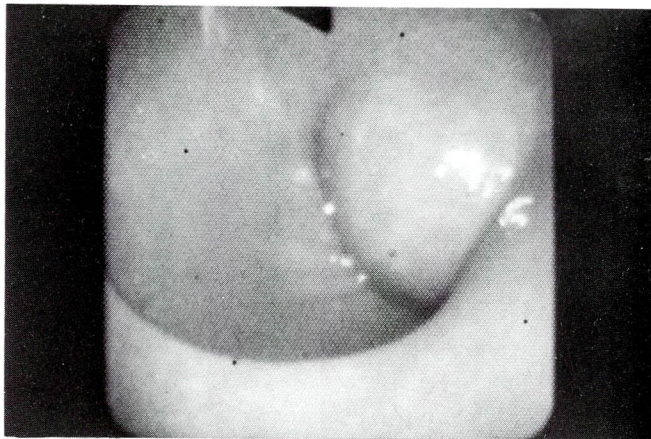


Fig. 2 Gastric endoscopy revealed a prepyloric polypoid lesion with broad stalk which was covered by smooth gastric mucosa without ulceration.



## PATHOLOGICAL FINDINGS

The resected specimen consisted of the distal two-thirds of the stomach measuring 21 cm along the greater and 12 cm along the lesser curvature. The circumferences were 7.5 cm at the proximal resected margin and 3.5 cm at the distal resected margin. The stomach contained a  $4.7 \times 3.7 \times 2.2$  cm, oval, soft, polypoid mass located at the prepyloric portion. The mass was covered by gastric mucosa which was free of ulceration (Fig. 3). Sectioning of this tumor revealed a submucosal well-demarcated, encapsulated, lobulated, pale yellow, soft, adipose tissue resembling lipoma. The remaining portion of the stomach was unremarkable (Fig. 4).

Light microscopically, the submucosal tumor consisted of well differentiated adipose tissue which did not invade the muscularis or mucosa. Thin fibrous bands containing small blood vessels were scattered throughout the tumor (Fig. 5). Pathological diagnosis was submucosal lipoma of the stomach.

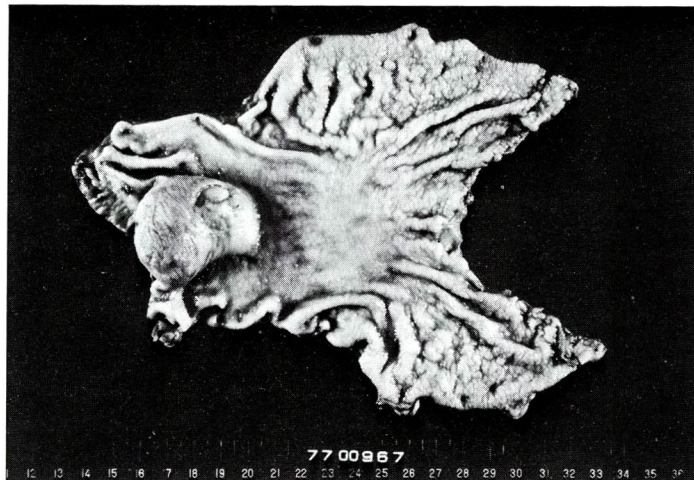


Fig. 3 The resected stomach contained a  $4.7 \times 3.7 \times 2.2$  cm, oval, soft, polypoid mass located at the prepyloric portion. The mass was covered by gastric mucosa which was free of ulceration.



Fig. 4 Sectioning of this tumor revealed a submucosal well, demarcated, encapsulated, lobulated, paleyellow, soft, adipose tissue resembling lipoma.



Fig. 5 Light microscopically, the submucosal tumor consisted of well differentiated adipose tissue which did not invade the muscularis or mucosa. Thin fibrous bands containing small blood vessels were scattered throughout the tumor. (Hematoxylin-Eosin Stain, xl)

## DISCUSSION

Gastric lipomas are rare, occurring four to ten times less commonly than those in the small intestine or in the colon.(2,6,16) According to several reports,(3,7) benign tumors constitute less than approximately one per cent of all stomach neoplasms and only one to three per cent of benign tumors are lipoma. In 1965, Turkington found 157 cases in the world literature with the patients' ages ranging from 29 to 83 years.(13) Nonami et al. reported 80 cases of gastric lipoma in the Japanese literature including their own two cases with the patients' ages ranging from 33 to 76 years (average age 54 years).(9) The incidence was almost equally distributed in both sexes.(2)

The tumor was located in the submucosal area in 95 per cent and subserosal area in 5 per cent of the cases.(4,8) Most of the tumors were sessile; a few were pedunculated and could even herniate into the duodenum. In general, the average diameter of the tumor measured 5 cm,(3,8) but various sizes of tumor have been reported ranging from 0.8 cm to 20 cm.(11) Over 60 per cent of gastric lipomas are found in the antrum of the stomach.(3,9,11,13,15)

Light microscopically, lipomas are composed of well differentiated adipose tissue(8) and malignant transformation has NEVER been reported.(2,12,13) There were no characteristic symptoms of gastric lipoma reported in the literature. However when they become large, they seem to cause hemorrhage, abdominal pain, dyspepsia and pyloric obstruction.(7) In Japan, epigastralgia is the most common symptom (30%) as in our case and 14.5 per cent of gastric lipomas are found by mass screening.(5)

Pre-operative diagnosis of gastric lipoma is very difficult. Most of them are diagnosed pre-operatively as benign submucosal tumor (52%), benign gastric polyp (20%) or malignant gastric tumor (16%).(9) Roentgenologic and endoscopic examinations reveal no particular findings of gastric lipoma, except for submucosal tumor.(10,14) In almost all cases endoscopic biopsy of submucosal tissue was not performed and therefore, established

diagnosis must be made by light microscopic examination of resected surgical specimens. (1) Gastrotomy for tissue diagnosis followed by removal of the tumor is recommended in order to prevent a drastic operation for this benign tumor.

## REFERENCES

- 1) Ackerman NB, Chughtai SQ : Symptomatic Lipoma of the Gastrointestinal Tract. *Surg Gynecol Obstet* 141 : 565, 1975
- 2) Bockus HL : *Gastroenterology*. WB Saunders Co. 3rd ed Vol 1 : 1029, 1974
- 3) Chodoff RJ, Leon A : Lipoma of the Stomach. *Surgery* 46 : 841, 1959
- 4) Fujimura K, et al : Case Report of Gastric Lipoma. *Stomach and Intestine* 5 : 67, 1970
- 5) Toma H, et al : A Case of Gastric Lipoma. *Stomach and Intestine* 6 : 65, 1971
- 6) Furste W, Solt R, Briggs W : The Gastrointestinal Submucosal Lipoma. A cause of bleeding and pain. *Am J Surg* 106 : 903, 1963
- 7) Kallie NR, Peters JAM, Chow SC : Submucous Lipoma of the Stomach. A case report. *Can J Surg* 19 : 42, 1976
- 8) Ming S-C : Tumor of the Esophagus and Stomach. in *Atlas of Tumor Pathology*. Fasc 7 Washington DC Armed Forces Institute of Pathology 246pp. 1973
- 9) Nonami K, et al : Gastric Lipoma. Report of two cases and review of the Japanese literature. *Surgical Diagnosis and Treatment* 18 : 783, 1976
- 10) Ochsner SF, Janetos GP : Benign Tumor of the Stomach. *JAMA* 191 : 881, 1965
- 11) Palmer ED : Benign Intramural Tumor of the Stomach. *Medicine* 30 : 81, 1951
- 12) Peabody JW, Ziskind J : Lipomatosis of Stomach. Case report and review of literature. *Ann Surg* 138 : 784, 1953
- 13) Rooney JA, Guzauskas AC : Submucous Lipoma of Stomach. *Am J Surg* 110 : 967, 1965
- 14) Turkington RW : Gastric Lipoma. Report of case and review of literature. *Am J Dig Dis* 10 : 719, 1965
- 15) Voinchet O, Yoshii Y, Prolla J, Kirsner JB, Kobayashi S, Kasugai T : Endoscopic Diagnosis of Gastric Non-epithelial Tumors. *Gastrointest Endosc* 18 : 153, 1972
- 16) Weinberg T, Feldman M : Lipoma of Gastrointestinal Tract. *Am J Clin Pathol* 25 : 272, 1955
- 17) Wilson JM, Melvin DB, Gray G, Thorbjarnarson B : Benign Small Bowel Tumor. *Ann Surg* 181 : 247, 1974