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Primary gastric lymphoma

Review of 32 cases from Iraq

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Summary

The clinical, laboratory, and radiological features of 32 patients with primary gastric lymphoma are reported. These tumours constitute about 9% of gastric neoplasms in Iraq. As a group our patients seem to present at an earlier age and with more extensive disease at the time of diagnosis than those with other gastric neoplasms. Surgical excision with chemotherapy and/or radiotherapy seems to offer the best chance of long symptom-free survival.

Introduction

Gastric lymphoma may exist as a primary lesion *(1–9)* or as a manifestation of generalised disease *(1,10,11)*. Although uncommon, primary gastric lymphoma (PGL) merits special attention since most published reports emphasise its favourable prognosis and better survival as compared with carcinoma of the stomach *(5,12,14)*. Primary gastrointestinal lymphoma appears to be a rather common condition in countries of the Middle East and several papers have been published describing various aspects of these interesting tumours *(4,6,15–20)*. This paper will present our experience with 32 cases of PGL in Iraq.

During the years 1965–78 one of us (ZRB) operated on 343 patients with primary gastric tumours at the First Surgical Unit of the Medical City (University Hospital), Baghdad. Thirty-two patients (9.3%) had PGL. These patients had no evidence of lymphoma outside the abdomen at the time of surgery. The diagnosis and extent of the disease were established at laparotomy and confirmed histopathologically. The clinical, laboratory, and radiological features of these cases and the nature and results of their treatment are reviewed.

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Clinical features and results of investigations

Twenty-three of the 32 patients were male and 9 female, a sex ratio of 2.5:1. Their ages ranged from 12 to 70 years, with a mean of 42.6 years; 13 patients were under 40. No distinctive racial or geographical pattern within Iraq was noticed.

The duration of symptoms ranged from 1 to 9 months, with a mean of 6.2 months. Abdominal pain, anorexia, and weight loss were common symptoms in most patients. An abdominal mass was reported in 19 cases, clubbing of the fingers in 11, melaena in 10, and low-grade fever in 9.

The haemoglobin concentration was above 12 g/dl in 20 patients, between 10 and 12 g/dl in 11, and under 6 g/dl in only 1 patient who bled from his tumour. The erythrocryte sedimentation rate was above 20 mm in 1 h in 23 patients.

Barium X-ray studies showed gastric abnormalities suggestive of neoplasm in 27 patients, 12 of whom had multiple filling defects (fingerprint-like appearance) which raised the possibility of gastric lymphoma (Fig. 1) while 15 had localised abnormalities indistinguishable from carcinoma (Fig. 2). Of the remaining 5, 2 were reported as duodenal ulcer and 1 as gastric ulcer, while the findings were negative in 2.

Gastroscopy was performed on 17 patients. Multiple nodular mucosal lesions were seen in 7, brain-like convolutory appearances in 5, and multiple ulcerative lesions in another 5. The diagnosis of gastric lymphoma was made by multiple gastroscopic biopsy in 11 patients; the others had suggestive but not conclusive histopathological findings.

Operative findings

At laparotomy the tumour was localised in 12 cases (in the antrum in 7, in the body in 4, and in

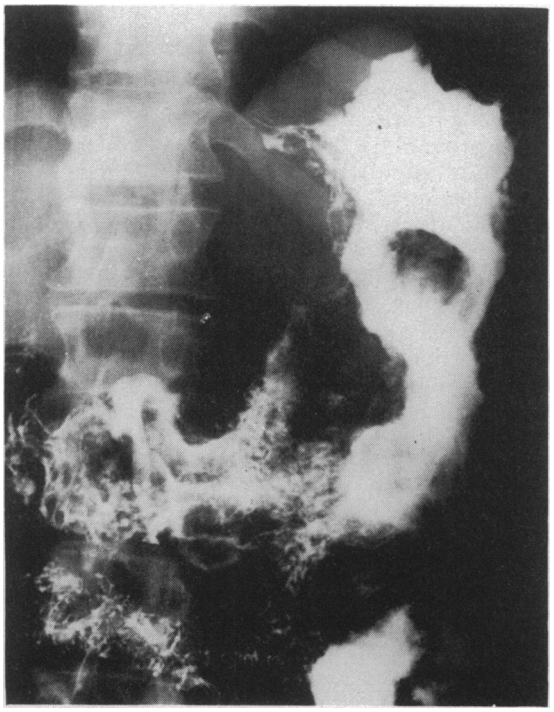

FIG. 1 *Barium meal in a patient 60 years old showing multiple filling defects (fingerprint appearance).*

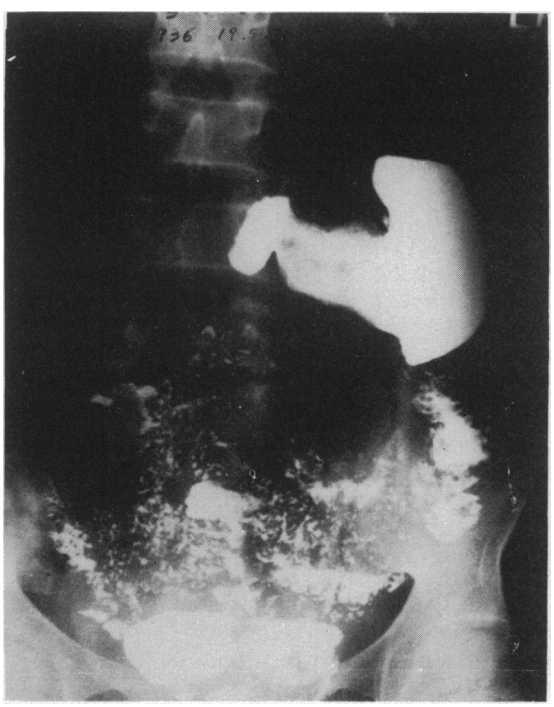

FIG. 2 *Barium meal revealing localised infiltrative lesion in the antrum in a patient 37 years old.*

the cardia in 1), multicentric in 13, and diffuse, involving the entire stomach, in 7. The regional lymph nodes were usually hugely enlarged, oedematous, but discrete. The liver and spleen were free of tumour in all cases.

Grossly the localised tumours were indistinguishable from carcinoma, but usually there is no sharp demarcation between the tumour and the surrounding gastric mucosa in lymphoma. The multicentric or diffuse tumours were seen in a bulky stomach with extensive oedema and increased vascularity of the gastric wall (Fig. 3). The cut section was typically of fish-flesh appearance. The regional lymph nodes were usually grossly enlarged, oedematous, congested, fleshy in consistency, and without matting.

Microscopically there were 2 cases of Hodgkin's disease and 30 of non-Hodgkin's lymphoma. The latter were classified according to Rappaport's system *(21)*. All of them were diffuse, 12 poorly differentiated lymphocytic, 10 histiocytic, and 8 mixed lymphoma.

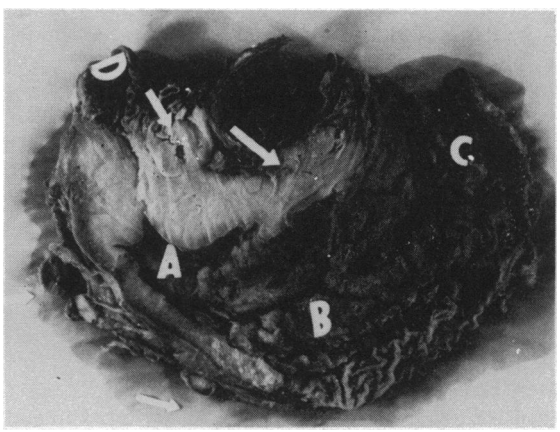

FIG. 3 *Gross appearance of multicentric nodular gastric lymphoma, showing a bulky stomach with nodular mucosa and thickened wall.*

Staging and surgical procedures

According to the Ann Arbor system *(22)* all our patients were in Stages IE or IIE as in no case was there any evidence of extra-abdominal spread.

All of the 5 patients in Stage IE (tumour localised to the stomach and regional lymph nodes free histologically) underwent radical partial gastrectomy.

The 27 patients in Stage IIE (tumour in stomach with histological involvement of regional lymph nodes) were subdivided into two groups: *(a)* 10 without peritoneal deposits, of whom 5 had radical partial, 4 subtotal, and 1 total gastrectomy; and *(b)* 17 with peritoneal deposits, of

whom 4 had palliative total or subtotal resection, 4 gastrojejunostomy, and 9 biopsy only.

Postoperative treatment

Twenty-two patients received chemotherapy consisting of cyclophosphamide 3–5 mg/kg body weight together with 10–40 mg of prednisolone daily. This combination was continued for variable periods. It was discontinued in 4 cases after 12–36 months when there was subjective and objective evidence of complete remission confirmed by radiology and repeated gastroscopic biopsy. Otherwise the chemotherapy was continued for the rest of the patient's life.

Five patients received radiotherapy, either alone or combined with chemotherapy.

Follow-up

The results were analysed according to stage, resectability, and postoperative therapy.

RESECTABLE GROUP (19 CASES)

Five of these patients were in Stage IE, 3 of whom received chemotherapy. All 5 are living without evidence of recurrence 15, 14, 9, 8, and 3 years respectively after operation.

Ten patients were in Stage IIE without peritoneal deposits, of whom 2 died postoperatively. The remaining 8 all received chemotherapy and only 1 had radiotherapy in addition. Three of these 8 died from recurrence of tumour 5–6 months after resection, while the remaining 5 are living after 5–6 years without evidence of recurrence.

Four patients were in Stage IIE with peritoneal deposits, of whom 1 died postoperatively. The other 3 all received chemotherapy and 1 had radiotherapy in addition. These 3 patients lived for 2–4 years and died from recurrence.

UNRESECTABLE GROUP (13 CASES)

All these patients were in Stage IIE with peritoneal deposits. Four died postoperatively. The remaining 9 received chemotherapy and 3 had radiotherapy in addition. Seven of these died from recurrence after 2–14 (mean 7.4) months. The remaining 2 have survived for 4.5 and 6.5 years respectively without evidence of recurrence.

Discussion

Although this series of patients with PGL is a small one, certain features of the disease as seen in Iraq are noteworthy and may be compared with those reported from other parts of the world.

Most published reports put the occurrence of gastric lymphoma at about 2–5% of the total of malignant gastric tumours *(3,5,12–14,23)*. The 32 patients with PGL who are the subject of this report were encountered among 343 patients with malignancy of the stomach, an incidence of 9.3%, which is almost double the highest reported figure in the other series. This increased prevalence of lymphoma relative to carcinoma of the stomach in Iraq probably reflects the increased incidence of gastrointestinal lymphomas in general in this part of the world. During the period covered by this study (1965–78) one of us (ZRB) operated on 748 patients with various malignant conditions of the gastrointestinal tract; of these, 161 (21.5%) had lymphomas. The occurrence of certain types of lymphoma with a distinctive geographical distribution, mainly the primary intestinal and Burkitt's lymphomas, in this part of the world, undoubtedly accounts for this observation. In the series published by Lewin *et al. (8)* the stomach accounted for 48% of gastrointestinal lymphomas followed by the small intestine, which was involved in 37% of cases, while in our experience the stomach accounts for 19.8% and the small bowel for 75.7% of gastrointestinal lymphomas.

The average age at diagnosis of PGL was 42.6 years in our series, considerably lower than that reported in other studies. As reviewed by Hertzer and Hoerr *(7)*, the average age of patients at the time of diagnosis in four series reported from North America was between 55 and 60 years. The male preponderance and other features of the disease in our cases are similar to those reported by other workers. Of interest in our series is the occurrence of clubbing of the fingers and fever, features not encountered by others.

Lewin *et al. (8)* and Lim *et al. (14)* noted that diffuse histiocytic lymphoma was the most common type of gastric lymphoma. Burgess *et al. (5)*, in the largest series of patients reported (218 cases), found lymphocytic-lymphoblastic lymphoma in 88, reticulum-cell sarcoma in 85, mixed lymphoma in 26, and Hodgkin's disease in 19 patients; although the number of our patients is small, the histopathological pattern in our series is similar.

In agreement with other authors *(5,14)* we found the stage of the disease and the resectability of the tumour to be the most important prognostic indicators in PGL. Patients whose tumour was resected at the time of diagnosis had the most favourable prognosis and the longest symptom-free survival. In this series as well as those of others *(7)* surgical resection of the tumour, with or without chemotherapy, seems to offer the best chance of long survival.

Early diagnosis must be attempted in any case of vague, prolonged, and persistent upper abdominal pain. Wider use of endoscopy with biopsy may increase the number of accurate diagnoses at an early and resectable stage.

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