Cytomegalovirus-associated gastric ulcer simulating malignancy

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Summary

A case is reported of cytomegalovirus (CMV) infection with radiological, gastroscopic and histological appearances which led to a mistaken diagnosis of carcinoma of the stomach.

Case history

A 59-year-old toolroom turner first presented with lethargy. He had splenomegaly, lymphadenopathy and enlargement of the lymphoid tissues in the posterior pharyngeal wall and post-nasal space. A lymph-node biopsy showed a malignant lymphoma of immunoblastic type (Lennert *et al.*, 1975). A complete remission was induced with adriamycin, vincristine, L-asparaginase and prednisolone and he was started on oral maintenance therapy with weekly cyclophosphamide and methotrexate and daily 6-mercaptopurine. On this treatment he remained well for 4 months, when he began to experience some upper abdominal discomfort and anorexia. A barium meal examination showed a large ulcer in the pre-pyloric area with deformity of the antrum and heaped-up mucosa, i.e. appearances suggesting malignancy. His maintenance chemotherapy was stopped and on gastroscopy an active ulcer was seen, surrounded by swollen mucosal folds which again suggested malignant disease. Three small fragments of mucosa were taken for biopsy. These showed inflammatory changes and some distortion of the gland crypts. In one fragment in particular, the normal gland crypts were broken up and there were groups of atypical epithelial cells with large hyperchromatic nuclei which were interpreted as carcinoma cells. At this time the spleen again became palpable and he was admitted for a laparotomy. At operation the spleen was enlarged and there was a small ulcer in the pyloric antrum. Partial gastrectomy and splenectomy were performed. The patient made a good recovery and has been well since (2 years). Microscopically the gastric ulcer appeared benign and the mucosa elsewhere was soft and pliable. Microscopy showed typical changes of cytomegalovirus infection in the

epithelium of gland crypts in the vicinity of the ulcer. The worst affected crypts were breaking up and it was this appearance in the gastroscopic biopsy which had led to a false diagnosis of carcinoma. Sections of the spleen merely showed an increase in plasma cells throughout the red pulp. There was no evidence of lymphoma. In view of the gastric histology, stored samples of the patient's serum taken at monthly intervals throughout his disease were tested for CMV complement fixing antibodies. The titres were consistently less than 1 in 8 until the sample taken 5 months after the patient first presented, when the titre rose to 1 in 512. The authors were unable to isolate the virus from urine or faeces.

Discussion

There are occasional reports (Hartz, 1935; Wong and Warner, 1962; Rosen and Hadju, 1970; Henson, 1972; Aldrete *et al.*, 1975; Campbell *et al.*, 1977) of probable CMV infection in immune compromised hosts, with gastric ulceration as the main clinical feature. In 1935 Hartz reported 3 patients with 'protozoa-like' cells in gastric ulcers. More recently, in 9 patients discovered at post-mortem to have CMV infection, Henson (1972) found typical intranuclear inclusions in the stomach in 6, and in 5 of these the gastrointestinal tract was apparently the only site of infection. These and most other cases have been diagnosed from post-mortem or surgical material without corroborative evidence of recent CMV infection. In the present patient the authors were not only able to confirm the diagnosis of CMV infection by the demonstration of a raised antibody titre to the virus, but also to show that this rise in antibody coincided with the onset of the patient's dyspeptic symptoms. Campbell *et al.* (1977) describe a patient with CMV mononucleosis who developed upper gastrointestinal tract bleeding; consequently, they looked specifically for inclusions in the gastric biopsy and found typical changes in the base of the ulcer and in only one of 3 biopsies from the ulcer margin. The present case showed no other evidence of infection at the time of biopsy and in these circumstances the changes seen in the rather limited material available from a gastroscopic biopsy may be confused with those of carcinoma.

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