

From St. Göran's Hospital, Stockholm, Sweden.

EOSINOPHILIC INFILTRATION OF THE GASTRIC WALL WITH FEATURES REMINISCENT OF CANCER

By

B. SUNDBERG, V. BACKLUND, H. COLLEDAHL & O. SCHUBERTH

Intensive research performed over recent years on the pathogenesis of the collagenous diseases has focused interest on eosinophilic infiltration in the stomach. Such a location is fairly uncommon, and it may present difficulty in diagnosis, especially in differential diagnosis. Three cases treated at St. Göran's Hospital, Stockholm, during 1955-56 are reported here.

In 1904 the presence of allergic oedema was demonstrated in the mucous membrane of the stomach (Morris). In 1937 Kaijser described a case operated upon for suspected ulcer, accompanied by pyloric stenosis, in which the patho-anatomic examination revealed interstitial inflammation and serous exudate, with plasma cells and many eosinophils.

Since then a number of similar cases have been reported. The changes have generally been described as eosinophilic granuloma of the stomach, a term introduced by Feyrther. Ruzic *et al.* speak of Löffler's syndrome of the stomach and McCune *et al.*, who presented a review of these cases at the meeting of the American Surgical Association in Philadelphia in 1955, have described the changes as eosinophilic gastroduodenitis, with pyloric obstruction.

The eosinophil infiltration in the stomach generally takes one of two forms: a demarcated granuloma, polyp-like in form; and diffuse gastritis, either generalized or focal.

The symptomatology is non-characteristic. The initial stage

may be marked by dyspeptic symptoms followed by pains reminiscent of gastric ulcer. In the cases reported the pains were severe. When the process is located in the pylorus there are signs of pyloric stenosis with retention, generally periodic and of varying intensity.

From the aspect of differential diagnosis the prime question is generally whether there is a malignant process or eosinophilic infiltration. Radiologic examination can undoubtedly be a valuable aid. The radiograph shows more or less marked gross folding of the mucose, sometimes with polyp-like protuberances in the lumen of the stomach wall, and sometimes with rigid contours of the greater or lesser curvatures. Long term observation with checks at close intervals reveals a varying radiographic picture. (In some cases the typical picture of a polypous mucosal contour can be obtained by adding the allergen to the contrast medium).

Local eosinophilic infiltration in the stomach and the lungs may be unaccompanied by any other allergic manifestation. Moreover, peripheral blood eosinophilia may be absent, although this is usually present in some degree.

Where there are allergic manifestations in the gastric and intestinal tract nutritive allergens play an important part, so that in suspected cases of eosinophilic infiltrate a complete allergic examination should be undertaken, including a full case history, comprehensive intracutaneous tests, elimination diet and provocation tests, performed with suspected allergens. Moreover, in nutritive allergy it may be of value to examine the leukopaenic or thrombopaenic index. Positive results of one or more such examinations will constitute support for a diagnosis of eosinophilic infiltrate, though a negative result does not necessarily exclude this diagnosis.

Gastroscopy may be of value, especially if it is supplemented with biopsy examination of the stomach and histologic examination of mucosa specimens. The method has its limitations, however. It is difficult to exclude cancer, that may be masked by the gross changes in the mucous membrane. It should be pointed out that in the gastric wall near a cancer there may be

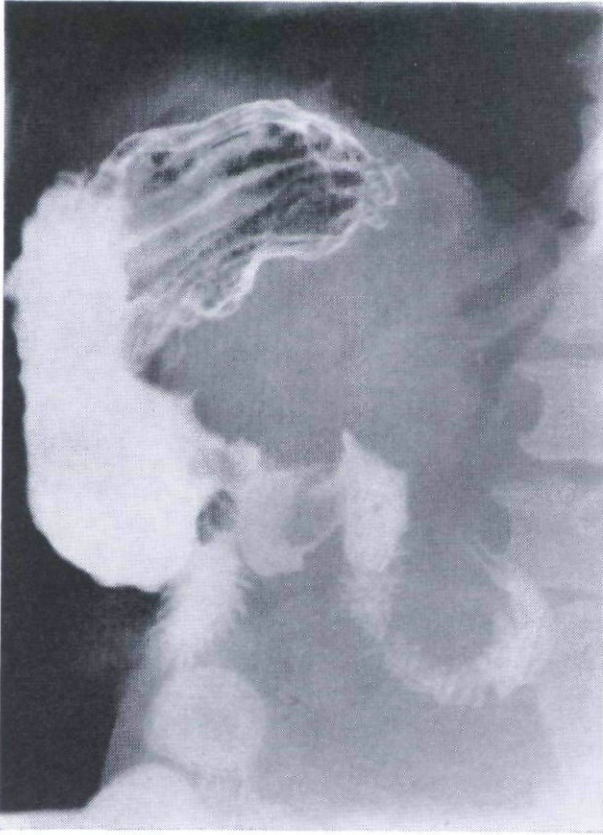


Fig. 1 a.

9.7.55. A gross folding of the mucosa with rigid contours of both greater and lesser curvatures.

numerous eosinophils. Such a case has recently undergone operation. In the resected part numerous eosinophils were found around, but not in, the cancer (Colldahl). Moreover, the presence of eosinophil cells in the mucosa may have another explanation—for instance, gastric ulcer at certain stages of healing.

The three cases reported here were males of medium to advanced age, a characteristic of this disease.

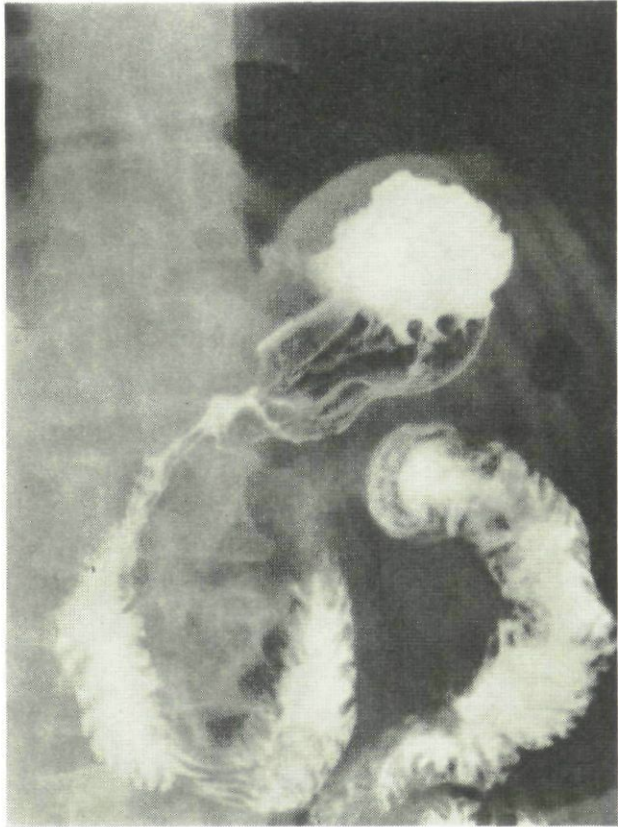


Fig. 1 b.

21.9.55. 1 month after gastric resection according to Billroth I. Still changes as before.

Case 1. No. 2956/58. A 46-year-old cement worker with a hereditary allergy. Typical allergic rhinitis for many years. On three occasions there was Quincke's oedema around the tongue and lips of obscure aetiology.

For some 20 years the patient had suffered from indigestion, with pains chiefly high up in the epigastrium, sometimes extending in the back and sometimes on the right side. The stomach symptoms had increased in severity during the last 18 months. An intensive grinding pain was felt in the epigastrium immediately after meals, depending on the type of food. During the months just prior to admission the pains had increased, and there had been severe vomiting owing to retention, with loss of appetite, and loss of weight. During the last six months

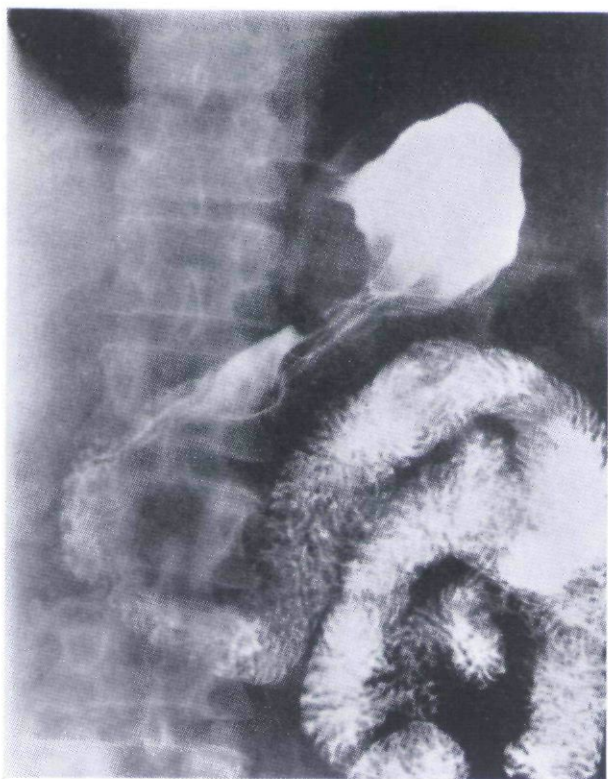


Fig. 1 c.

28.1.58. Normal gastric mucosa.

there had been recurrent bouts of high temperature up to 39° , with elevated ESR of up to 90 mm.

Over the last 10 years the patient had had several examinations of the stomach. There had been persistent achylia and the patient was periodically given hydrochloric acid. Stomach radiographs taken on numerous occasions disclosed an irritant status in the distal canal, but no sign of an ulcer.

Blood eosinophilia maximum 8 per cent. Intracutaneous tests showed a weak positive reaction to wheat, rye and lycopodium. The patient underwent a specific hyposensitization treatment with wheat and was put on a wheat-free diet. There was an improvement in the allergic rhinitis, but no permanent abatement of the abdominal symptoms. Neither the leukopaenic nor the thrombopaenic index gave reliable positive indication.

Operational intervention was decided upon in view of the severe abdominal pains, the marked retention, the poor general condition and, above all, the radio-

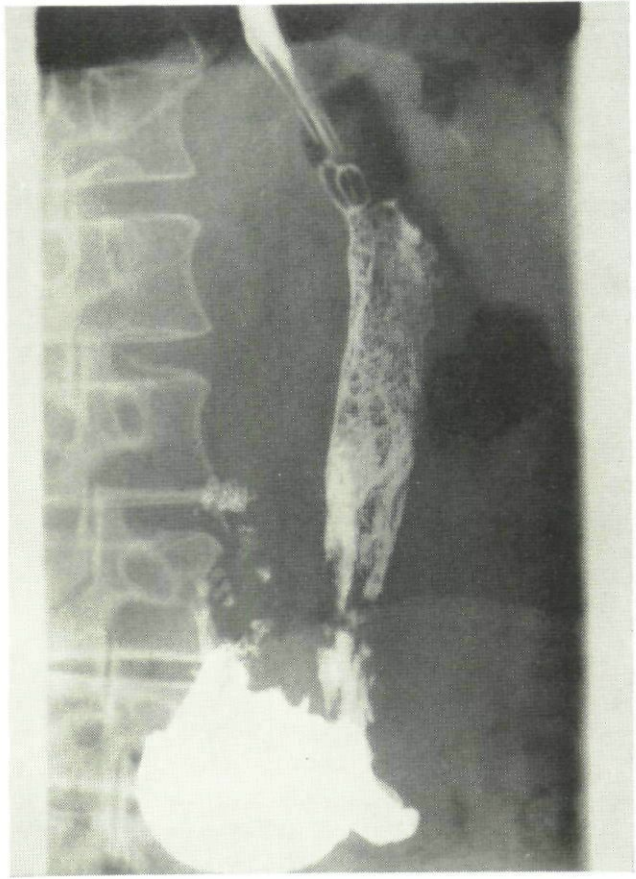


Fig. 2 a.

23.2.56. Much thickened mucous membrane with rigid folding and pseudopolyposis.

graphic status, which on examination in July, 1955, showed a gross folding of the mucosa far up in the corpus, with rigid contours of both greater and lesser curvatures, and a permanent depression in the former, giving a marked impression of cancer, although eosinophilic granuloma of the stomach appeared more probable from the duration of the symptoms. Gastric reaction was performed according to Billroth I (Schuberth). At operation a flat infiltration in the posterior wall of the stomach was found to be attached rather firmly to the posterior abdominal wall. It extended diffusely up towards the cardia region. The whole stomach wall was thickened.

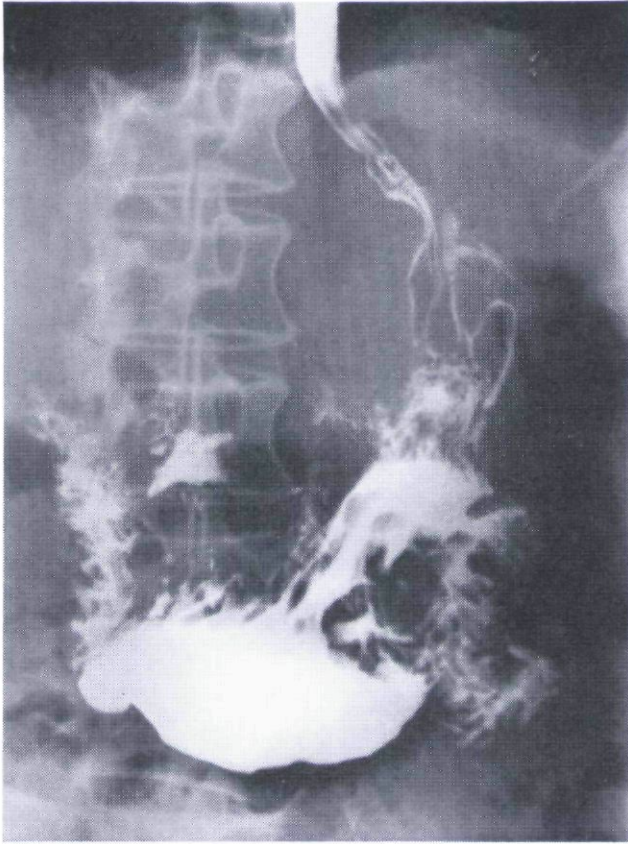


Fig. 2 b.

5.4.56. Marked progress of the changes which now simulate cancer.

Patho-anatomic examination showed an enormous thickening of the wall to about 25 mm, due to allergic oedema in the submucosa and chiefly in the muscularis propria, while the mucous membrane was thin. The most striking eosinophilic infiltrations were located in the oedematous parts of the wall. Some venous branches were normal, while others displayed segmentary destruction of the lamina elastica interna, the damage to the wall giving rise til diapedesis; in one rather large vein there was fresh thrombotization. The vascular changes seemed *only* to involve the veins. Patho-anatomic diagnosis: vasopathia allergica in the stomach localized to the veins, with marked oedema.

After operation the patient was largely free from gastric symptoms. During the months immediately following the operation there had been mild symptoms of

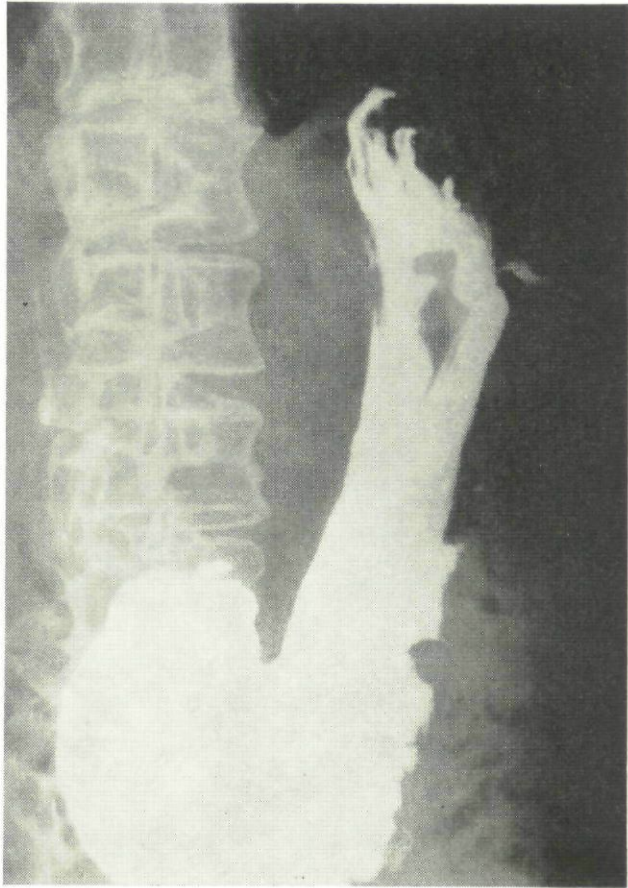


Fig. 2 c.

24.4.56. Marked reduction of polyposis.

gastritis and the radiographs showed persistence of the rigid and somewhat polypous folds of the mucous membranes. On later follow-ups the contours were soft and the folding of the mucosa normal (Fig. 1c). There were no periods of fever, and the ESR was normal.

Case 2. Record No. 4936/56. The patient was a 57-year-old factory-worker in the motor industry. Since childhood there had always been a tendency for blocking of the nasal passages when suffering from colds, and sinusitis had been observed. The tonsils had been removed in 1926, and he had undergone an operation on the nasal sinuses.

In 1938 he was treated for intestinal haemorrhage, but no ulcer could be de-

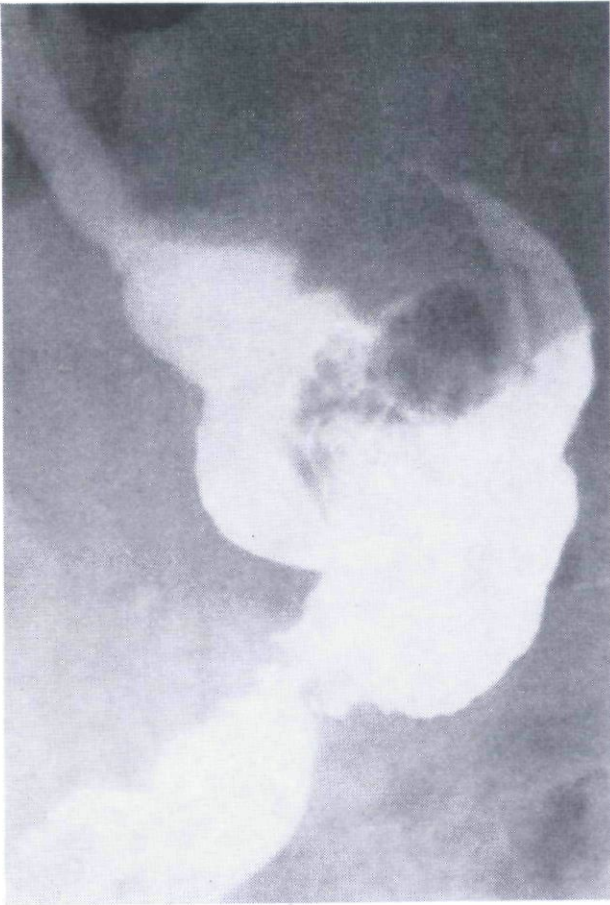


Fig. 3 a.

8.1.57. Epicardiac defect in fornix the size of a walnut.

tected in the radiographs until 1948, when one was visible on the posterior side of the stomach. The patient had been admitted for asthma practically every year since 1950.

The patient's father had asthma, and one brother had eczema.

He himself had had asthma since 1936, when he underwent a nasal polyp operation. Since 1950 the stomach had been examined at this hospital. As he had often had gastric symptoms reminiscent of gastric ulcer, with pains in the epigastrium an hour or two prior to meals, stomach examinations had been made several times by radiology. A striking feature was the wide variability of the



Fig. 3 b.

6.6.57. Marked decrease of the gastric changes.

changes; at one time high polypous mucosal folds and large multiple irregular defects were visualized, while on another occasion the changes had practically disappeared. At some examinations the radiologists had not been able to exclude a malignant tumour, but the varying course ruled this out. A marked change in the picture could be observed in 14 days (Fig. 2). On 14th February, 1956, gastroscopy was done, and polypoid, oedematous mucosal formations were found protruding into the fonix region (Tomenius). Histologic examination showed that the mucosa of the stomach was penetrated by fresh haemorrhage, and contained marked infiltration of eosinophils, so that an allergic gastritis was diagnosed.

Skin tests were negative. The maximum blood eosinophil count was 22 per cent. The reason for the allergic infiltration in the stomach could not be discovered.

The patient died on 25th July, 1956, after prolonged asthma.

The P.A.D., including histologic examination was bronchial asthma + allergic gastritis + nephritis (glomerulosclerosis) + cardiac incompensation.

Case 3. Record No. 6885/58. A 75-year-old man, who had previously always been healthy. Since 1956 he had had severe hiccup. No known allergic manifestations were found in the case history. Stomach radiographs showed a suspected tumour in the fundus (Fig. 3). On operation an area about 7 cm across was found where the mucosa contained large folds, while the rest was smooth, and practically atrophic. Histologic examination of specimens revealed an oedematous mucosa with plasma cells and eosinophils, but there was no sign of vasopathia. According to the pathologist the picture was reminiscent of gastritis of the allergic type. The gastric incision was sutured again and no resection was performed. No blood eosinophilia was observed after the operation. The patient showed no gastric symptoms over an observation period of 7 months.

DISCUSSION

The pathogenesis is still obscure and opinions are divided. It is at present impossible to exclude an allergic factor as the basic cause of the disease. A careful and comprehensive examination should always be recommended and a thorough allergy analysis performed.

SUMMARY

Three cases of eosinophilic infiltration of the stomach are described. In two cases gastric operation was performed. It is difficult to decide whether operation is the best treatment, but further observation might well decide this, specially in such cases where cancer in the stomach cannot be excluded by rapid changes of the X-ray picture.

REFERENCES

1. *Colldahl, H.*: Nordisk Medicin 61, 811, 1959.
2. *Kaijser, R.*: Acta chir. scand., Suppl. III, 1946.
3. *McCune, W. S., Gusack, M. & Newman, W.*: Ann. Surg., 142, 510, 1955.

This document is a scanned copy of a printed document. No warranty is given about the accuracy of the copy. Users should refer to the original published version of the material.