COMBINED ABSCESS AND CARCINOMA OF THE STOMACH

ELLIS KELLERT, M.D.

(From Ellis Hospital Laboratory, Schenectady, N. Y.)

Circumscribed or diffuse acute inflammation of the stomach is an uncommon disease and is never diagnosed before operation or necropsy. It is rare for either abscess or cancer of the stomach to be found in the incipient stages, the lesions usually being well developed when seen by the pathologist. The following account, therefore, is of interest as recording the co-existence of two infrequently observed pathologic changes.

CASE REPORT

The clinical record is brief. The patient, a married woman of fifty-six years, complained of vague abdominal distress for several months, with occasional attacks of nausea and vomiting. She did not lose weight nor could she recollect any other symptoms. There was apparent tenderness of the lower right side of the abdomen but no rigidity. Nothing of diagnostic importance was observed in the vomitus, urine, or stools. The symptoms became more severe and were associated with slight elevation of temperature. Gastric analyses were not made. Further preoperative data were not significant.

A laparotomy was performed and the appendix removed, but the patient died at the end of the first week. In the appendix only moderate chronic inflammatory changes were found on histologic examination. At the necropsy, which was performed twenty-four hours after the body had been embalmed, there were observed localized peritonitis about the cecum and evidence of septicemia, such as enlarged spleen, acute pleuritis, and pneumonitis.

The stomach was considerably distended but without evidence of pyloric obstruction. On the posterior wall of the pylorus near the lesser curvature was a raised area of mucous membrane 2 cm. in diameter which was irregularly circular, grayish-brown, soft, and somewhat elevated. In this area were several minute openings through which pus was readily expressed. On incision a small pocket of pus was found which, when removed, exposed grayish, soft, mucoid surfaces. The lesion was fairly sharply demarcated but there was no sharp, hard margin. The base of the lesion was not firm nor thickened and grossly did not suggest tumor. It simply appeared as an abscess of the gastric wall.

Microscopic sections through the mid-portion of the above area showed a thin but still recognizable mucous membrane. The glands were quite atypical, extending downward in
irregular formation and to a varying depth. Many of the acini had large lumens. The
cells were deeply staining and large; the nuclei varied greatly in size; mitoses were infre­quent.

Beneath the thin surface membrane was a thick layer of polynuclear leukocytes among
which were occasional clusters of tumor-like cells, tumor acini, and atypical epithelium. The
submucosa was markedly infiltrated by tumor cells and cells of an inflammatory character,
mainly lymphocytes. The musculature was infiltrated by tumor acini which at one point
penetrated the entire thickness of the muscle coat and involved the serosa. In one field the
muscle appeared entirely replaced by adenocarcinoma. Sections at the margin of the lesion
showed extensive polynuclear and lymphocytic infiltration of the muscle and groups of tumor
cells. Adjoining blood vessels appeared normal, but perivascular tumor acini were present.
The neighboring lymph nodes showed no evidence of metastasis. The total thickness of
tumor tissue was about one-half that of the abscess.

The lumens of the acini, where the latter were fully formed, appeared to be filled with
a colorless mucoid or granular material. The lining cells were columnar in type, slightly
stratified, with small, deeply staining nuclei situated near the base. Mitotic figures were
infrequent. Throughout the tumor area was a diffuse infiltration of polynuclear neutro­philic leukocytes, most abundant in the submucosa and least pronounced where the tumor

involved the muscle coat. Several small adjoining lymph nodes showed no pathological
changes, and neighboring arteries appeared normal. No thrombi were present and there
were no alterations in the vessel walls. There was no retraction of the serosa at the site of
the tumor, nor were there any adhesions or other evidence of inflammation. The pylorus
was carefully sectioned, but no tumor was found except as noted above.

DISCUSSION

A phlegmon or abscess of the gastric wall is a rarely described lesion, only
about 150 cases having been recorded to date. The condition was first ob­
served in the latter part of the seventeenth century and was noted by
Verandaeus (1620), Borel (1636), Rokitansky and others. In recent years,
Leith (1), Jacoby (2), Cecil (3), MacAuley (4), and Watson (8) have given
excellent descriptions of the disease. It appears in two forms: the diffuse
purulent infiltration of the submucosa, which is the more common, and a cir­
cumscribed abscess, as in the present case, of which about a dozen have been
recorded. Where abscess and cancer coexist it is very likely that the abscess
is secondary to the tumor, which permits the entrance of bacteria. The neo-
plasm may be small, as in the present case and in one described by Sandelin (5), or it may be quite large. A phlegmon described by Novak (7), occurring at the pylorus, was sufficiently large to cause obstructive symptoms. Watson (8) in a review of 13 cases found that 9 were operated on, with 3 recoveries. Where the disease was of the localized type, recovery followed. Angle (9) described in a sixty-year-old male patient a combined abscess and adenocarcinoma of the stomach, but the abscess was external to the gastric wall, situated between the diaphragm, spleen, and pancreas, and may be regarded as a late complication of an advanced carcinoma of the stomach. Colon bacilli were isolated from the abscess.

Streptococci and staphylococci have been most frequently isolated from abscess and phlegmon of the stomach, but the mode of entry is still in doubt. As a rule, there is no evidence of injury to the gastric mucosa, but it does appear probable that the infection may result from penetrating foreign bodies so frequently ingested with food. Hematogenous infection must be exceedingly rare except in the presence of an acute general infection such as a streptococcus septicemia. The idiopathic diffuse form is thought to have its origin in the cardiac end, a point more favorable for the localization of streptococci (Bossart).

Cancer of the stomach is not often observed in the early pre-ulcer stage. In the present case this was the condition found, for the mucosa was intact, although it showed signs of disintegration. The transition of the normal epithelium to tumor was readily observed, and it was apparent from the stage of each process that the abscess followed the cancer and, had the patient survived a longer period, might have resulted in diffuse phlegmonous gastritis. Had the abscess lost its covering of epithelium, the pus would have discharged into the stomach, leaving behind an ulcerating cancer. It is not improbable that many gastric carcinomas which appear to be grafted upon an ulcer arise in this manner. Versé (10), of Marchand's Clinic, reported 12 early unrecognized cancers of the stomach, none of which were more than 1 cm. in diameter.

Gastric abscess has never been diagnosed prior to operation or necropsy.
Symptoms of pain, vomiting, and fever all suggest a serious disturbance in the epigastric region, but unless one observes pus in the vomitus the true condition will not be suspected. Novak, in his patient already referred to, resected the pyloric end for a circumscribed mass which proved to be an abscess, and a cure resulted. But one other case (6) is recorded where relief followed operation. Peritonitis is the usual end-result.

References