A CASE OF LYMPHOSARCOMA OF STOMACH

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(With Special Plate)

The above condition is a very rare one. It has been described in the literature, but very few cases have been quoted. A brief clinical record, with the detailed post-mortem findings, of a case admitted to the King George's Hospital, Lucknow, may not be without interest.

Case Record

K. H. M., aged 20 years, was admitted to hospital on January 10th, 1934, giving a six-months history of headache, pain all over the body, dimness of vision, and weakness in the extremities of the right side. The onset of the disease had been gradual. Clinically, there was oedema of the eyelids and legs, intense anaemia, and absent jerks in the lower extremity of the right side. The heart was normal, and the pulse rate 120; the lungs were normal. The ocular fundi showed secondary optic atrophy on the right side and optic neuritis on the left. Blood changes showed a total red count of 2,160,000, with haemoglobin 42 per cent. The blood film showed leucopenia, anisocytosis, poikilocytosis, and polychromatophilia. A differential white cell count gave the following figures: polymorphs, 53; lymphocytes, 43; large mononuclears, 1; eosinophils, *nil*; and basophils, 1. The Wassermann test was negative, the urine normal. On January 27th the patient died in a cachectic state.

NECROPSY

The stomach (see Figure on Special Plate) was small and rugose. Hard, yellowish polypoid growths were present on the mucous membrane, and measured about 1 inch by 1/4 inch. The stomach wall was thickened and fibrosed, fibrosis being more marked in the pyloric region. The pylorus was adherent to the pancreas and gall-bladder and showed no stenosis. The small intestine (see same Figure) showed polypoid growths at several places throughout its course, the surfaces of some of them being ulcerated. There were no growths in the large intestine. The pancreas was very hard and showed diffuse infiltration. A few of the mesenteric glands were slightly enlarged. A few pinhead-like nodules were found on the liver, and the Prussian-blue reaction was positive. The kidneys were enlarged, and there were tiny nodules in the surface varying from the size of a pea to that of a pinhead. No naked-eye change was observed in the spleen, except that the surface was granular. There was no enlargement of the lymphatic glands in the body. There was fluid in pleural cavities, but no change in the lungs. The heart was small and slightly dilated, the brain anaemic, the cerebro-spinal fluid being normal. The spinal cord could not be removed as the relatives did not allow it. The bone marrow was aplastic.

HISTOLOGICAL REPORT

Stomach.—A nodule removed showed that the whole of the mucous membrane and the submucous layer was infiltrated with tumour cells. These were round, and were smaller than the epithelial cells. The nucleus filled up the whole of the cytoplasm and had taken on a deep blue colour (stained with haemalum and eosin). Mitotic division of cells was seen in places. A few of the mononuclear acidophilic cells were also present. The blood vessels of the stomach were slightly thickened. Infiltration was also present in the muscular coat of the stomach, especially in the circular layer. The glands were intact, but at places the cells in them were undergoing hyaline degeneration and were disappearing. The cardiac end of the stomach showed infiltration, but to a markedly lesser extent.

Intestine.—The mucous membrane on the nodules in the intestine was thickened and infiltrated, and this was also true of the submucous tissue, which presented the same appearance as in the case of the stomach. Neither the muscular layer nor the tissue between nodules showed any change.

Liver.—This showed diffuse cellular infiltration, more marked around the porta hepatis. The cells were arranged mostly around the small blood vessels, with no proliferation of bile ducts or of fibrous tissue. Multinuclear giant cells were absent. Isolated collections of the cells were present under the capsule of the liver, as was chronic venous congestion and fatty changes in liver cells.

Kidneys.—Nodules in the kidneys showed the same type of cells with partial atrophy of the tubules. Some of the glomeruli had undergone hyaline degeneration, and contained within them some of the tumour cells.

Spleen.—This was congested and showed marked infiltration with the same cells. At places a fair number of mononuclear acidophils were present, and the Malpighian corpuscles had practically disappeared. The whole of the substance was invaded by this new tissue, with a few areas of degeneration. Neither multinucleated giant cells nor increase in the reticulum was seen.

Pancreas.—The infiltration with tumour cells was more marked in between the columns of the acini. The tail was also infiltrated, but to a lesser extent.

Heart.—There was freedom from infiltration here, but localized subacute pericarditis.

Bone Marrow.—This was infiltrated with the same sort of cells.

Discussion

The symptomatology of the case did not indicate any new growth of the stomach, as it consisted only of intense anaemia, optic neuritis, and some wasting of muscles of the extremities, pointing towards some kind of peripheral neuritis. Whether this neuritis was due to a toxic condition or to an actual infiltration in the spinal cord and its nerves could not be settled, as permission to remove the spinal cord was withheld.

Lymphosarcoma of the stomach has been mostly described as a bulky, circumscribed, or diffuse growth, but sometimes, according to Kaufmann, it may appear as submucous polypoid nodules in stomach, with leucocytosis and relative increase of polymorphs (Grawitz)—occasionally of lymphocytes (Turk). As regards differential diagnosis, pseudo-leukaemia can very easily resemble the picture given above, but a prominent feature is enlargement of the external lymph nodes and of the spleen, and this was not present in my case. Again, in pseudo-leukaemia the gastro-intestinal tract is less affected than in lymphosarcoma, and the peripheral blood shows leucocytosis and no relative increase in lymphocytes. In the case described there was leucopenia and some relative increase in lymphocytes. (The former condition can be accounted for by aplasia of the bone marrow.) Finally, pseudo-leukaemia of the gastro-intestinal tract is rarely an acute condition, and shows no infiltration in organs other than the lymph nodes, while the onset of the condition described above was somewhat acute and showed infiltration in other organs as well, including the pancreas. Hodgkin's disease was excluded on account of the absence of increased reticular fibres and of large mononuclear and giant cells. Moreover, in Hodgkin's disease enlargement of lymph glands is a very common feature, which was not present in the above case.

The hyperchromicity, mitotic division of the cells, and extreme degree of cellular infiltration, both in the stomach and in other organs, made the diagnosis of lymphosarcoma quite clear. Metastatic deposits in the liver, Peyer's patches of the small intestine, the pancreas, kidneys, spleen, and medullary cavities of the long bones were interesting features of this case. The fact that the mesenteric and the lymph glands along the greater and smaller curvatures of the stomach were not appreciably enlarged pointed towards the spread of the disease through the blood vessels, and not through the lymphatics. The stomach, being the primary organ affected, was infiltrated from cardia to pylorus, and gave rise to polypoid growths at places.

Conclusion

1. A case of primary diffuse lymphosarcoma of stomach with polypoid masses has been described.
2. Metastasis has been shown to occur in liver, small intestine, pancreas, spleen, kidneys, and bone marrow.
3. The important points in the differential diagnosis of the condition have been indicated.

My thanks are due to my colleague Dr. S. P. Gupta for his help in taking the photomicrographs.

REFERENCES

- ¹ Kaufmann: *Pathology*, vol. i. ² Ewing: *Neoplastic Diseases*.
³ Crohn: *Affections of the Stomach*.

STRANGULATION OF TRAUMATIC DIAPHRAGMATIC HERNIA OCCURRING NINE MONTHS AFTER ORIGINAL ACCIDENT

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(With Special Plate)

In view of the increasing number of cases of strangulation of traumatic diaphragmatic herniae occurring both at the time of the accident and even years later, the following case appears to be of interest. It exemplifies Sir James Mackenzie's saying that "pain is the most important of complaints and the most instructive diagnostic sign," and illustrates the value of Zachary Cope's dictum that "the majority of severe abdominal pains which ensue in patients who have been previously fairly well and which last as long as six hours are caused by conditions needing surgical intervention."

Case Report

In June, 1935, a married woman, aged 52, was admitted to a medical ward of the Hull Royal Infirmary for obscure abdominal symptoms. She was incoherent, and a definite history was difficult to obtain. She complained of constant abdominal pain, obstinate vomiting of four days' duration, and also of considerable pain in the top of the left shoulder and between the shoulder-blades. Her bowels "had not moved" for a week, and she vomited immediately after she took anything. An enema had been given on the morning of admission with no result of flatus or faeces.

The patient gave a history of a motor accident in September, 1934, as a result of which several left ribs were fractured and her left leg had to be amputated. She had been troubled with bilious attacks from childhood, and had been perfectly fit since the accident until the present symptoms developed.

EXAMINATION

The patient looked extremely ill, and was evidently in great pain. She was slightly cyanosed, with some icteric tinge and was extremely restless, tossing about in bed, but she obtained a little relief by sitting up and leaning forwards. She was vomiting copiously. The symptoms were augmented when she lay down, so much so that examination in the supine position was made extremely difficult by her constant desire to resume "the sitting up and leaning forward" position. The abdominal pain was made worse when deep respirations were attempted, as was the pain on the top of the left shoulder.

Examination of the abdomen disclosed no visible mass and no distension. The organ moved very poorly with respirations, and on palpation appeared tender all over, with maximum tenderness just below the left costal margin. There was some rigidity of the upper left rectus, slight diminution of liver dullness, and a tympanitic note in the right flank. No sounds were audible on auscultation, and nothing abnormal was revealed per rectum.

Chest.—Diminished expansion of left chest; slight dullness left base; diminished air entry whole of left chest, and absent breath sounds left base. No adventitia. *Heart*.—Sounds distant and foetal in character, but no evidence clinically of displacement. Well-marked basal pericardial rub. Patient complained of pain in precordial region on attempt to palpate the apex beat.

This factor and the pain on palpation of the lower left rib margin in front and behind I unfortunately discounted.

An enema was given, but without result. The urine contained a trace of albumin. The pulse was 120, respirations 25, and temperature 98° F.

DIAGNOSIS

This presented great difficulty. Coronary occlusion, acute intestinal obstruction, and acute pancreatitis were all suggested. I considered diaphragmatic hernia, but discarded this diagnosis, having an erroneous idea that hernia would not occur so long after the accident. It was evident that operative intervention was urgently required, and a tentative diagnosis of acute pancreatitis was made. No x-ray examination of the chest and no laboratory investigation was carried out in view of the patient's poor condition, and of the need for immediate operation. Loewi's adrenaline test was negative.

OPERATION

This was performed, under light gas and oxygen anaesthesia and local muscle infiltration, within four hours of the patient's admission. There was no evidence of pancreatic necrosis. It was found that the fundus and proximal half of the stomach, the spleen, and a piece of omentum had passed through an opening in the posterior part of the left side of the diaphragm about two inches from the oesophagus and admitting three fingers. After the passage of a stomach tube and aspiration of the contents from the upper compartment of the stomach, reduction was accomplished. The stomach was distended and its wall congested and "purplish" in colour—but viable. The spleen and piece of omentum were successfully delivered through the opening. The opening in the diaphragm was then closed. The condition of the patient throughout the operation was poor, respirations ceasing on three occasions, but she left the table in definitely better condition than before operation. Continuous intravenous saline and carbon dioxide and oxygen inhalation was instituted, but the patient died two hours after operation.

POST-MORTEM EXAMINATION

Post-mortem examination disclosed collapse of the left lung with blood in the left pleural cavity, probably a post-operative occurrence. There were old healed fractures of the left second and third ribs, with adhesions of parietal pleura to the chest wall in this region, and old healed fractures of the eighth, ninth, and tenth ribs on the left side and about two inches from the vertebral column. There was a sutured tear in the posterior leaf of the left diaphragm about two inches from the oesophageal opening, which, on undoing sutures, admitted three fingers. Polypoid fleshy masses surrounded the chest surface of this opening like a frill, probably old organized blood clot. There was no evidence of a hernial sac. The heart was healthy. The small and large intestines were completely collapsed except for the upper few feet of the small bowel. The stomach was ballooned and purplish in colour, with excoriations on its visceral peritoneum, probably as a result of the nipping. The spleen was healthy. Nothing else of note was discovered.

Comments

It is now evident that the diagnosis should have been possible on admission, but the similarity to acute pancreatitis and the fact that due recognition was not given to the patient's history of an accident rather obscured the picture.

Harrington, in a résumé of sixty cases of diaphragmatic hernia, stresses the importance of: (1) the shoulder pain; (2) the cyanosis; (3) the obscure chest findings; and (4) the augmentation of the symptoms on lying down—all of which criteria this case presented. There may be

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FIG. 1A.—Case I. Before operation.

FIG. 1B.—Case I. After operation.

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FIG. 2.—Case II, aged 26. No operation.

Showing infiltration with tumour tissue of stomach wall and intestinal wall.