

Hematemesis Nine Years After Splenectomy¹

CASE REPORT

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IN THE EXPERIENCE of the writer, schistosomiasis mansoni has been found the most frequent cause of cirrhosis of the liver in Puerto Rico; bleeding from esophageal varices is one of the most frequent complications of this condition. The number of patients that dies each year on the Island because of recurrent hemorrhages from esophageal varices, secondary to cirrhosis of the liver produced by schistosomiasis mansoni, must therefore be high.

Various methods of dealing with this complication have been advocated with enthusiasm and some optimism; among them the following can be mentioned: splenectomy; splenectomy with obliteration of the coronary vein of the stomach; the injection of a sclerosing solution directly into the esophageal veins through the esophagoscope; omentopexy; ligation of the esophageal veins, and so forth. However, it is not within the realm of this paper to discuss the success or failure of each one of these methods. The removal of the spleen in the hepatosplenic type of schistosomiasis mansoni has been advocated under certain conditions. In the opinion of the writer, splenectomy may be indicated in this condition only when, according to the known hepatic function tests, the liver is still able to function properly yet the spleen has become so large that it prevents the individual from leading a fairly normal life. Until recently, the writer believed that splenectomy might prevent the development of esophageal varices, but the following case report has made him hesitant about maintaining such an opinion.

L.J.-U.H. No. A-4788. A 32-year old white Puerto Rican male was admitted to the University Hospital for the first time on July 5, 1934, complaining of discomfort in the left upper quadrant, frequent bowel movements, headaches, and loss of weight. The patient stated that the above complaints had been present for approximately two years; he also stated that he had frequently bathed in rivers during 1922, 1926, and 1933.

Physical Examination. The patient was a well-developed and

Note. X-ray studies of the esophagus, performed after the writing of this article, revealed esophageal varices.

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fairly well-nourished individual, with a moderate pallor of the skin and conjunctivae. His spleen, however, was greatly enlarged and occupied the entire left upper quadrant.

Laboratory Findings.

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| Hemoglobin..... | 81%, or 11.9 g. |
| R.B.C..... | 3,960,000 per cmm. |
| W.B.C..... | 2,350 per cmm. |
| Differential Count: | |
| P. neutrophils..... | 56% |
| P. eosinophils..... | 9% |
| Lymphocytes..... | 29% |
| Monocytes..... | 6% |
| Mean corpuscular volume..... | 96 |
| Mean corpuscular hemoglobin..... | 29 |
| Mean corpuscular hemoglobin concentration..... | 30 |

The patient was treated medically and discharged as improved on August 3, 1934. A course of fuadin was administered without any toxic reactions. He improved under this treatment but continued to have abdominal pains, especially after meals and usually located in the lower abdomen, almost always accompanied by a desire to defecate. The stools were usually loose and full of mucus.

Although the stools had been negative for eggs of *S. mansoni*, a second series of fuadin was administered. This second course was given with the idea of helping the patient's intestinal condition. On June 19, 1935, he was seen by Dr. Allen O. Whipple, of the College of Physicians and Surgeons of Columbia University, who recommended a splenectomy, as the medical treatment prescribed had not produced any pronounced improvement in his general condition. On the above date, the patient was hospitalized for a second time and, under spinal pontocaine anaesthesia, his spleen was removed by Dr. Whipple on June 21, 1935.

Dr. Alberto Rivero, of the Department of Pathology of the School of Tropical Medicine, submitted the following report:

Gross: Unfixed specimen. A moderately enlarged spleen weighing 1320 gm. and measuring 23 x 14 x 8 cm. The capsule is smooth and free of adhesions. The pulp is slightly flabby and reddish brown. The trabeculae are slightly prominent. At the periphery occasional small, focal and diffuse recent hemorrhagic areas are observed. The follicles are inconspicuous. At the periphery in a few areas there are also observed several small nodules 1 to 3 mm. in diameter, which consist of a pale brownish central portion

and a golden-yellow, bright, narrow peripheral zone. These foci are oval and somewhat irregular in shape.

MICROSCOPIC: Sections of the spleen show the follicles to be either normal or slightly smaller than normal in size. They are widely separated. In the pulp the sinuses are dilated and are somewhat further apart than normal due to thickening of the wall. The usual pulp cells are seen but there is a moderate increase in the number of eosinophiles. There is an occasional small hemorrhage. Some of the larger vessels have moderate thickening of the wall. Occasionally there is seen an area of scarring or fibrosis with hemorrhage in the connective tissue. The splenic artery shows no unusual features. The splenic vein shows a localized area of intimal proliferation. A lymph node shows normal architecture with normal lymphoid tissues. The sinuses contain blood.

TRICHROME STAIN: Shows no additional features.

DIAGNOSIS: Chronic splenomegaly.

NOTE: The findings are consistent with the clinical diagnosis of schistosomiasis mansoni.

A biopsy of the liver was taken at the time of the operation and a diagnosis of normal liver also made by Dr. Rivero. The patient's postoperative course was very satisfactory. He had the anticipated blood response—a rise in the white cell and in the platelet counts—having been discharged on July 13, 1935, as in good condition. He was followed up, however, in the Outpatient Department until September 1938, when he stopped coming to the clinic. Throughout this period the patient had gained up to 130 pounds in weight (a gain of 19 pounds since the first admission); on several occasions the blood picture was essentially normal. The feces were persistently negative for eggs of *S. mansoni*.

On November 8, 1943, the patient returned to the Outpatient Department, stating that he had felt fairly well since his last visit but had had at times a slightly vague discomfort in the region of the liver at about the sixth intercostal space. The patient stated, furthermore, that he had felt this discomfort for many years; his appetite, however, was good, and bowel movements were regular and normal.

Physical Examination. This revealed a well-developed and well-nourished white Puerto Rican male; the abdomen presented a well-healed, long, firm scar along the border of the left rectus muscle, but no masses nor organs were felt. There was no evidence of collateral circulation; no ascites was present.

Temperature 98° F.
Pulse 80 per minute
Blood Pressure expressed in mm. of mercury. 120/80

The examination was essentially normal.

Laboratory Findings. These revealed a normal blood count.

Blood Chemistry: Non-protein nitrogen 33.4 mg. per
100 cc. of blood
Urea nitrogen 15.1 mg. per
100 cc. of blood
Sugar 108 mg. per
100 cc. of blood
Total blood protein 8.66 g. per
100 cc. of blood
Serum albumin 5.16 g. per
100 cc. of blood
Serum globulin 3.50 g. per
100 cc. of blood

Takata Ara Negative

Hanger Negative

Urine Urobilinogen normal

Feces Negative for eggs of *S. mansoni* after repeated examinations.

X-ray Studies of the lungs, heart, esophagus, stomach, duodenum, and small intestine normal. A barium enema revealed a spastic descending colon and sigmoid. The splenic flexure was found to be redundant.

On March 1, 1944, the patient was taken sick and felt a sensation of heaviness in the abdomen. Two days after, he took a purgative as he continued to feel heaviness in the epigastrium, drinking a cup of hot coffee at 9:30 P.M. of that day; at that hour the purge had not yet been effective. A few minutes later, he developed nausea, vomiting a cupful of a dark matter resembling "coffee grounds." He took some cracked ice and an hour later, vomited large clots of red blood, repeating this at 11:30 P.M., when he was brought to the University Hospital.

Physical Examination. A somewhat pale but well-developed and well-nourished white Puerto Rican male.

Temperature 99° F.
Pulse 140 per minute
Blood Pressure expressed in mm. of mercury 98/52

The patient vomited again at 3:00 A.M., at 3:30 A.M., and again at

3:42 A.M. of March 4, 1944. He was given a fourth of a grain of morphine on admission.

Laboratory Findings.

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| Hemoglobin..... | 75%, or 10.87 g. |
| R.B.C..... | 3,690,000 per cmm. |
| W.B.C..... | 5,100 per cmm. |

Differential count:

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|---------------------|-----|
| P. neutrophils..... | 48% |
| P. eosinophils..... | 5% |
| Lymphocytes..... | 46% |
| Monocytes..... | 1% |

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| <i>Blood Chemistry.</i> Non-protein nitrogen..... | 36.5 mg. per 100 cc. of blood |
| Urea nitrogen..... | 15 mg. per 100 cc. of blood |
| Sugar..... | 138 mg. per 100 cc. of blood |

On March 7, 1944, the non-protein nitrogen went up to 78.9 mg. per 100 cc. of blood.

Urine..... Negative

X-ray..... Studies of the esophagus, stomach, and duodenum revealed no lesions.

The patient was treated conservatively and discharged, as improved, on March 10, 1944. On April 13, 1944, he was seen again at the Outpatient Department but was found in good physical condition.

COMMENTS

Although X-rays revealed no lesions in the esophagus, the clinical picture was very suggestive of bleeding from ruptured esophageal varices. Following splenectomy, this patient had led a completely normal life; careful follow-up studies had revealed nothing abnormal. However, the sudden and unexpected occurrence of hematemesis, nine years after splenectomy, is certainly a very strong argument against those who advocate the removal of the spleen as a preventive measure against the development or recurrence of hematemesis. It is possible that the esophageal varices in this patient were already present at the time the splenectomy was performed; if this is true, then the operation delayed the progress of the condition. There is no doubt, however, that splenectomy was conducive to a state of well-being in this patient who had not enjoyed it for many years prior to the operation.

SUMMARY

A case of hematemesis, nine years after splenectomy, has been presented. Although the cause of the hematemesis cannot be precisely determined, the clinical picture strongly favors bleeding from ruptured esophageal varices. Splenectomy brought definite improvement in the patient's health, but it did not prevent the development of hematemesis.

Note. Recent X-ray studies of this patient revealed esophageal varices.