intubation is necessary or desirable C10 facilitates the passage of a Magill intratracheal tube without producing complete abdominal relaxation, which is so often unnecessary in E.N.T., orthopaedic, and other classes of operation.

It may be used in conjunction with D-tubocurarine chloride to produce short-term relaxation of the abdominal muscles when the peritoneum is being closed and it is undesirable to give another dose of D-tubocurarine chloride because of its long action and cumulative effect. Full respiratory excursions will then be established before the patient returns to the ward.

Antagonist.—Pentamethonium iodide, or C5, is the antidote to C10. Hewer *et al.* (1949) have reported its effects. It acts by producing a block of the autonomic ganglia, and would seem to be contraindicated in major surgery. It may produce a profound fall in blood pressure, and the patient may collapse in a very alarming manner. No opportunity has arisen and no attempt been made to use this substance here.

My thanks are due to Dr. T. H. Hobbes, the senior anaesthetist, for his help.

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Medical Memoranda

Volvulus of the Small Intestine

The following case illustrates the difficulty of diagnosis of volvulus of the small intestine. This difficulty is present not only before operation but when the abdomen has been opened. The aetiology of the condition is obscure, and in the case described an adhesion was present round which the gut appeared to have pivoted. This has been described in other cases, but the operator is likely to find no obvious cause whatever.

CASE REPORT

A storekeeper aged 53 was admitted to hospital complaining of acute abdominal pain 1 in. (2.5 cm.) to the left of the umbilicus two days previously. Before this he had always been quite well. There was continuous dull abdominal pain with exacerbations of acute colic. The bowels had been absolutely confined and no flatus passed. Vomiting began a few hours after the onset of pain and had continued.

On admission he had an ashen appearance. His tongue was dry and furred. His temperature and pulse were normal. The abdomen was tympanitic and a little distended but with no real rigidity. No free fluid was discovered and there were no localizing signs of any sort to assist diagnosis. He was vomiting brownish fluid but there was no faecal change in the vomit. Enemas were returned unchanged. Borborygmi were heard over the large intestine. A diagnosis was made of small-bowel obstruction probably due to strangulation by band or internal hernia.

At operation there was a little free fluid and the whole small intestine presented moderately distended and markedly congested but not "plum coloured." In the left hypochondrium a band 3/16 in. (0.5 cm.) in diameter and extending from the splenic flexure downwards and inwards was found to be attached to the middle of the mesentery. This band was part of numerous adhesions tying the whole colon from caecum to sigmoid to the anterior peritoneum. The small intestine was free of adhesions. The large intestine was moderately and normally distended. Round the band was wrapped a loop of small intestine which was more obviously affected than the rest, as it was plum coloured and more distended. The band was divided and the small loop began to recover in appearance. At first it was thought that the cause of the obstruction had been discovered and dealt with, but the poor condition of the whole small intestine raised doubts, and, on feeling round the abdomen, the typical "band" caused by the twisted mesenteric root was felt and the volvulus diagnosed. The small intestine was eventrated, the 180-degrees twist that was present was untwisted, and the abdomen closed. The patient made an uninterrupted recovery.

A. J. HOBSON, F.R.C.S.

Aplastic Anaemia Complicating Miliary Tuberculosis

In the following case complete aplasia of the bone marrow developed. This seems to be an unusual complication and the clinical findings are worth recording.

CASE REPORT

The patient, a man aged 41, was healthy until March, 1949. His initial symptoms were non-specific—namely, lassitude, anorexia, and headaches. In June, 1949, he had a severe epistaxis and bleeding from the gums. He was admitted to hospital on August 4. There was no family history of tuberculosis.

On examination he was obviously very ill. He complained of a sore throat. The fauces were injected but not ulcerated. Pallor was pronounced without any evidence of icterus. The superficial lymphatic glands were not enlarged. His temperature was 101.6° F. (38.7° C.) on admission, and a remittent pyrexia, fluctuating between 100 and 103.2° F. (37.8 and 39.6° C.), persisted until the day before death. The pulse was 120. A loud systolic murmur was audible at the mitral area. The blood pressure was 145/80. No abnormal signs were elicited in the lungs. The spleen was enlarged to ½ in. (1.2 cm.) below the umbilicus, and the liver was enlarged 2 in. (5 cm.) below the costal margin.

The urine was normal. A blood count showed: haemoglobin, 36%; red cells, 1,510,000; C.I., 1.2; white cells, 1,200. No primitive cells were seen in the film. The red cells showed anisocytosis and poikilocytosis. Aerobic blood culture was negative. Examination of the sternal marrow smears revealed no primitive cells of either the myeloid or erythrocyte series. The film was diagnostic of aplasia of the bone marrow.

A radiograph of the chest showed a resolving area of consolidation in the left mid-zone. The remainder of the lung fields was clear. There was no enlargement of the mediastinal lymph nodes and no mottling. The patient died on August 21, 17 days after admission.

Permission for a necropsy could not be obtained, but the spleen was removed. This viscus was grossly enlarged and the histological examination showed multiple areas of necrosis with a slight mononuclear reaction around the margins. With Ziehl-Neelsen's stain lesions were seen to contain acid-fast bacilli. The picture was that of an atypical miliary tuberculosis.

COMMENT

There are several features of unusual interest in this case. Aplasia of the bone marrow was caused by an overwhelming toxaemia with a very low resistance. The absence of chest symptoms and minimal radiological findings are very difficult to explain in a case of generalized miliary tuberculosis. The primary focus was probably extrapulmonary. The gross splenomegaly was due to numerous tubercles and there was no evidence of splenic panhaematopenia. The miliary tuberculosis was not seriously considered in the differential diagnosis. Aleukaemic leukaemia was excluded by the marrow findings.