and signs are present and institute immediate drainage.

DISCUSSION.—DR. J. DEWEY BISGARD (Omaha, Nebr.): I should like to ask Doctor McLaughlin if there is any difference in the incidence and mortality of bile peritonitis in the cases drained as compared with those undrained.

DR. CHARLES W. MCLAUGHLIN, JR. (Omaha, Nebr., closing): In this series, all of these cases, with one exception, were drained. The practice in Omaha, at the present time, is to institute drainage in practically all cases following cholecystectomy. A recent case was admitted to the hospital with bile peritonitis, a cholecystectomy having been performed elsewhere, without drainage. Since six of our eight cases developed in drained cases, it is obvious that a drain does not prevent the development of bile peritonitis, but we feel safer when we routinely provide an outlet for free bile.

# THE FORGOTTEN MOYNIHAN TUBE

## In Acute Mechanical Obstruction of the Small Intestine

**Henry J. Vandenberg, M.D.**

*Grand Rapids, Mich.*

From the Blodgett Memorial Hospital, Grand Rapids, Mich.

ACUTE MECHANICAL BLOCK of the small intestine is still one of the gravest and most disastrous emergencies to confront the surgeon. We cannot help it if a case is brought to us late, but we can be held accountable for any delays, once the responsibility is ours.

There is always an accumulation of fluid above the point of block. It is held there, and suction drainage instituted. If it is the accumulated toxic material in the bowel that kills, the answer will be dictated by common sense, namely, that the accumulation must be given egress as soon as possible and, of course, the cause of obstruction must be removed.

The Moynihan tube, now pretty much forgotten, affords a means of emptying the accumulated, toxic fluid expeditiously, by a simple surgical procedure that can be accomplished in about 15 minutes, without soilage or discomfort to the patient. Decompression results in improvement of the circulation of the intestinal wall right under one's eyes; the emptied bowel is then easily handled. Decompression should precede releasing the obstruction, thus preventing the pent-up toxic fluid to pass down into "thirsty" collapsed bowel for rapid absorption.

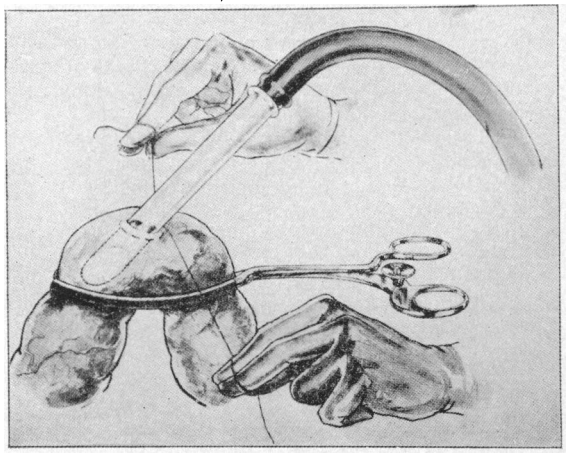

FIG. 1.—Clamp applied to prevent escape of fluid when incision is made for the drainage tube. The purse-string suture then serves the same purpose.

The Miller-Abbott tube is advocated to-day for all types of obstruction, including acute mechanical block. Where time is so important a factor its use may be disappointing and costly. It cannot always be passed beyond the duodenum, or its passage may be slow, too slow! Its application is disturbing to a sick patient, likewise the fluoroscope for its guidance.

The Moynihan tube also has limitations, but in acute mechanical block no other method yet devised meets the requirements in as expeditious a fashion. It is, moreover, simple and safe as well as effective.

*Technic.*—A knuckle of intestine, in

except for what may be lost in the vomitus, because, first, it cannot pass the point of obstruction; and, second, reabsorption which normally takes place ceases. We have, then, the problem of loss of fluids and salts, a bowel loaded with fluid that soon becomes highly toxic, with threatened toxemia. Fluids and salts can be replaced very readily, the stomach can be lavaged

about the midportion of the obstructed bowel, is stripped free of its contents, if possible, and a rubber-covered clamp applied to prevent the escape of fluid from the incision made to admit the drainage tube. If the intraluminal tension does not permit of stripping it free, collapse is effected by using an hypodermic needle. A purse-string suture is then introduced into the wall opposite the mesentery before opening the intestine. An incision is made in the center of it, just large enough to admit the tube. As soon as the tube has been introduced beyond the tip, the purse-string is pulled taut (Fig. 1), to prevent soilage, and the clamp removed. The tube is passed up into the intestine as far as the flange in one direction. It is then withdrawn far enough to permit it to be swung over so that it can be pushed down into the intestine in the opposite direction. If there is still unloaded intestine that cannot be pushed onto the tube, it can be held up and its contents allowed to run out by gravity.

Moynihan's technic does not include the use of the covered forceps, hypodermic needle, and purse-string suture. This refinement makes it possible to accomplish drainage without soilage, thus preventing a superimposed peritonitis.

My experience with this tried and tested Moynihan tube (refined technic) impels me to recall it to your attention, and to advocate a revival of its use in acute mechanical obstruction of the small intestine.

---

# DIFFERENTIAL DIAGNOSIS AND SURGICAL CARE OF JAUNDICED PATIENTS

**Charles B. Puestow, M.D.**
*Chicago, Ill.*

DIFFERENTIATION between medical, or hepatogenous jaundice, and the surgical, or obstructive forms, is often very difficult. This is especially true when the patient is not seen until jaundice has existed for many weeks or months. A careful evaluation of the clinical history is of greatest importance. Unfortunately, atypical symptoms are too frequent to permit any group of criteria to establish a diagnosis. Laboratory studies are often valuable. Liver function tests may give diagnostic information in the early stages of jaundice. In the hepatogenous form, primary damage of the liver cell exists, and may be demonstrated by the more delicate functional determinations, whereas in the obstructive types of jaundice, liver damage usually is delayed. As the duration of jaundice increases, cell damage exists in all types, and functional tests are of value, chiefly, in determining the ability of the patient to withstand surgical intervention.

The most frequent evidences of toxic or infectious intrahepatic jaundice are a history of the ingestion of a liver toxin or the preexistence of some infectious disease. Icterus gradually increases without associated pain or pruritus. Bile is present in the intestinal tract at all times but may be diminished in amount. The liver may become enlarged and tender but later the tenderness usually disappears, and the spleen often becomes palpable. If the disease progresses, liver insufficiency, ascites, weakness, and emaciation ensue.

Obstructive jaundice results most frequently from calculi within the choledochus; malignant tumors encroaching upon its lumen; or strictures of the duct. Symptoms of these lesions vary in accordance with the completeness and constancy of the obstruction, and the presence or absence of infection.

Calculi usually produce an intermittent jaundice, with associated colicky pain due to a ball-valve action of the stones. Longstanding "biliary dyspepsia" precedes the onset of jaundice. Bile usually is present in the intestine but varies in amount inversely with the degree of icterus. Fever may or may not be present depending upon the existence of infection. Occasionally, stones become impacted in the common duct, producing constant jaundice, often with absence of pain. Impaired liver function is not manifested until late in the disease.

A majority of malignant lesions producing obstructive jaundice cause symptoms which make the diagnosis apparent. The onset of jaundice is painless and progresses to its maximum by a gradual, steady increase. Pruritus almost invariably is present. Infection is uncommon. The gallbladder frequently is palpable below the