REPORT OF AN INSTANCE OF SUPPURATIVE CHOLANGO-HEPATITIS
WITH OBSTRUCTIVE JAUNDICE*
THE VALUE OF DUODENAL-TUBE DRAINAGE OF THE BILIARY TRACT IN
DIAGNOSIS AND IN THE ALTERATION OF SYMPTOMS AND SIGNS

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THE patient, R. S., male, was 59 years old when first seen by one of us (B. B. V. L.) on April 4, 1930. His chief complaints were chronic obstructive jaundice of over two years’ duration, chilliness, feverishness, nausea and vomiting, loss of weight.

In 1921, he had had three gall stones removed and a cholecystostomy performed. This yielded a satisfactory result until September 1927 when gall stone colic recurred. At his second operation, a long stone was found tightly impacted in the cystic duct. Its removal, together with the gall bladder, probably required a low cystic duct ligation, thereby injuring the common duct, since, three days later, the patient became obstructively jaundiced and remained so until September 1929. The jaundice gradually assumed the greenish-bronze type suggestive of malignancy involving the head of the pancreas. Such was the diagnosis rendered by the surgeon who did the first and second operations. In September 1929 the patient was re-explored by one of us (D. B. P.) but no evidence of cancer of the pancreas, of the liver or adjacent organs was found. However, the common bile duct could not be identified in the mass of adhesions. The liver was found enlarged due to gross evidence of cirrhosis. The pancreas was hard but not greatly enlarged.

A catheter-anastomosis between the right hepatic duct and the duodenum was accomplished. This procedure promptly re-established liver drainage and in three or four weeks’ time the jaundice had greatly decreased. However, a few weeks later the subject contracted an upper-respiratory cold and promptly became re-jaundiced. He was re-admitted to the Methodist Hospital where the usual measures, supplemented by several unsuccessful attempts at duodeno-biliary drainage, failed to relieve the situation. He continued with obstructive jaundice to April 4, 1930.

Examinations: Then, the patient was intensely jaundiced, to a greenish-bronze color; the skin was exoriated from scratching; he was emaciated; the arms were wasted to “broom sticks;” the weight was 97 pounds, representing 53 pounds below normal average; temperature range was 97°F to 99.3°F; pulse range 85 to 100; blood pressure, 120/85, despite pronounced arteriosclerosis; the tongue was coated; pyorrhea; gingivitis and sordes were marked.

The lungs relatively were normal; the heart, exhibited diminished myocardial reserve. Abdomen: retracted, scaphoid; visible enlarge-

Laboratory observations: The feces were clay colored; negative for urobilin and for occult blood; and microscopically showed poor form, with rare casts that contained faint traces of albumin; urobilinogen 1–160; Gmledin test +4 and occasional bile-stained pus cells. The van den Bergh test yielded positive, direct delayed and biphasic reactions; and a positive indirec reaction. Icterus Index 77 units. Blood glucose was 61 mg.; cholesterol 400 mg.; hemoglobin was 68 per cent; R. B. C. 3,610,000 Color Index 0.9; W.B.C. 11,600 with 68 percent polymorphonuclears.

Figure 1—First bottle of extra and intrahepatic duct casts obtained on April 4, 1930.

During the course of the subject the blood sugar readings increased slightly to 66, 69, 69 and 68 mg.; cholesterol de-

*From this patient multiple casts of the dilated intra-hepatic biliary ducts were recovered by duodenal tube. We believe this to be the first recorded instance of such an observation.

increased to 376, 296 and 202 mg.; the icterus index decreased to 54 but with decreasing quantitative bilirubin.

TREATMENT OBSERVATIONS
On duodenal intabation April 4, 1930 no bile-stained fluid was recovered, but after repeated transduodenal stimulations with hot water, normal salt solution and magnesium sulphate there were recovered several score, whitish-gray worm-like casts, apparently derived from the dilated intrahepatic ducts (see Figures 1 to 3). Many of these casts were branched and varied in length from 1 to 5 cm.; along their edges could be detected a faint, bile-tinge. Microscopically, these were demonstrated to be mucopus casts (see Figures 4 and 5) with enormous numbers of polymorphonuclear leukocytes and a high bacterial flora of bacilli and cocci, culturally identified as B. coli communis and non-hemolytic streptococci.

The total amount of this material secured on first drainage covered the bottom of an eight-ounce bottle of a diameter of 2 3/4 inches to a height of 1 3/4 inches. (See Figure 1.) Following the recovery of these multiple casts, a small amount of dirty-appearing, turbid bile was secured; it was deep greenish-black in color, very thick, and contained much slimy, flocculent ma-
Figure 2—Showing irregularity in size, shape and diameter of casts.

terial, microscopically showing bile-stained pus-cells in abundance, much necrotic debris, many broken-down, "shadow cells" of columnar epithelium and many black pigment particles. This black or greenish-black bile—like "B. bile" of a routine duodenal drainage—in a cholecystectomized patient is pathognomonic of dilated intra- or extra-hepatic ducts, as described by Counsellor and McIndoe. (see Figures 6 and 7.)

The patient was transferred to Jefferson Hospital on April 7th. There he was given biliary drainages over a period of three or four hours every day or every second day, until his discharge on May 2nd. Injections of an autogenous vaccine of B. coli and streptococci also were exhibited.

During this time, bile flow became fairly well established; a total of 6,490 mls (1.5 gals.) was recovered. Bile reappeared in the feces and diminished in the urine, and the skin jaundice and its expression by icterus index and quantitative van den Bergh diminished. The bile drained by duodenal-tube gradually decreased in viscosity, the color improved from greenish-black to greenish-yellow; decreasing quantities of biliary casts were recovered, but we secured large amounts of dense, slimy, flocculent material, with pronounced oleaginous degeneration, but of a lighter yellow than usually seen in cystic duct catarrh.

The drainages then were continued at the patient's home at intervals decreasing from twice a week to once in ten days. Altogether, several gallons of bile admixtures were recovered. He was given occasional over-night drainages, these yielded from 1,500 to 2,000 mls each. This, however, apparently decompressed the liver too rapidly and the patient would temporarily become more icteric, so that weekly, short drainages appeared to be more effective. With this schedule he became less jaundiced and, as noted above, the icterus index and blood chemistry improved; the enlargement of the liver gradually decreased by half, and the surface became less dome-shaped and irregular. The patient gained in strength, in appetite and digestion and increased 20 pounds in weight.

Although the outlook for this patient was distinctly problematical in view of a badly damaged and structurally altered liver, the improvement secured was encouraging. The problem was to keep the duct-system as free as possible of casts and flocculent material which otherwise would obstruct bile flow and return him to obstructive jaundice. At this time, it seemed obvious to us that the anastomosis between the hepatic duct and the duodenum was still patent, and it was questionable whether further surgical intervention could improve the situation.