Differential Diagnosis of Jaundice: Report of a Prospective Study of 61 Proved Cases

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Attempts to evaluate the merits of clinical features and laboratory tests in the differential diagnosis of jaundice are usually based on a retrospective analysis of case records. On the basis of analyses of this type, certain diagnostic criteria have become generally accepted as valuable in determining the cause of icterus. For example, distaste for tobacco has been considered a helpful early symptom of viral hepatitis, pruritus an indication of obstructive jaundice, and weight loss evidence of malignancy. Likewise, tenderness over the liver has been emphasized primarily in cases of viral hepatitis and an elevation of serum alkaline phosphatase of over 10 Bodansky units per 100 ml. as especially characteristic of obstructive jaundice. These and other diagnostic parameters thus established may well be put to test by a prospective study in which a specific diagnosis utilizing these criteria is made after clinical examination and then again after the laboratory tests have been completed and the conclusions thus reached verified by the final pathologic diagnosis. In this way, the reliability of currently established principles in the differential diagnosis of jaundice can be objectively evaluated.

The results of such a prospective study form the basis of this report. While it was originally intended that each of the authors examine every patient within 24 hours after admission and make a tentative diagnosis before laboratory tests could be completed, this was frequently not possible, for various reasons. Nevertheless, it was believed that the study has proved

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sufficiently helpful to warrant this report. In this communication only
those features which were found to be of distinct merit and those which,
contrary to expectation, yielded little or no help will be discussed. It is
realized that the results obtained in a study of this kind may be influenced
by the type of case material and by the enthusiasm and experience of the
observers.

MATERIALS AND METHODS

All patients over 15 years of age admitted with jaundice to the Cincin-
nati General Hospital or the Cincinnati Veterans Administration Hos-
pital, or who developed jaundice while in these hospitals between Oct. 1,
1958, and Apr. 30, 1959, were seen by at least one of the authors as soon as
possible after hospital admission. The diagnosis was recorded separately
by each examiner after the clinical examination was completed and again
after the laboratory data had become available. The patients' clinical
course altered the diagnosis in only 1 case as in all others definite proof of
the diagnosis, frequently in the form of a needle biopsy of the liver, was
obtained at an early stage.

Liver profiles, including thymol turbidity (T.T.), cephalin flocculation
(C.F.), zinc sulfate turbidity (Z.T.), serum bilirubin (S.B.), and serum
alkaline phosphatase (S.A.P.) were performed in the gastric laboratory
using standard technics. The Bodansky method was used for the determi-
nation of serum alkaline phosphatase. Serum glutamic oxaloacetic trans-
aminase (SGOT) and serum glutamic pyruvic transaminase (SGPT) were
measured by the method of Cabaud et al.1 and that of Wroblewski and
Cabaud,2 respectively, serum 5-nucleotidase by the technic of Young,3 and
prothrombin time by the one-stage Quick method; urinary urobilinogens
were determined in 2-hour urine specimens collected between 1 and 3 p.m.
by the method of Watson and Sborov.4 Liver biopsies were performed
transthoracically with a Vim-Silverman needle.

RESULTS

A total of 95 patients was seen. The diagnosis in 28 was unproved be-
because of contraindication to liver biopsy in 10, refusal of permission for
autopsy in 10, and the patient's leaving the hospital despite advice to the
contrary in 8 instances. Anatomic proof of the diagnosis was obtained in
67, by needle biopsy in 30 and at laparotomy or autopsy in 37. Six of the
proved cases (2 patients with hepatoma without antecedent cirrhosis and
4 patients with toxic hepatitis, 1 due to phosphorus and 3 to septicemia)
were omitted as they formed too small a group from which to draw useful
conclusions. Our discussion is based on study of the remaining 61 proved
cases.