Liver cirrhosis is a chronic and progressive disease with high mortality rate. In clinical practice it is otherwise well known that beside patients suffering from rapidly fatal cirrhosis with high recurrence of complications, some others with asymptomatic and well compensated disease exist, in whom the diagnosis may be occasional and sometimes autopsic after death for other causes. Many factors including etiology, dietary habits and probably the accuracy of follow-up and management of complications can modify the natural history of the disease, even if no specific therapy is so far available. Therefore, it should be of great practical importance to know, at presentation, whether some clinical or laboratory variables can predict the course of liver cirrhosis in order to rationalize the follow-up and management of patients.

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Many attempts have been made following this point of view. CHILD suggested to use serum albumin, bilirubin and ascites in the evaluation of surgical risk of patients who underwent portacaval anastomosis. A more recent approach in this field was represented by the application of computed statistical analysis to various combinations of clinical, laboratory and histological data in order to evaluate their prognostic usefulness in the clinical practice. EKINDJIAN et al., using multivariate analysis, reported that one clinical and 5 laboratory variables allow a correct prognosis of short-term survival in 81.6% of cases of liver cirrhosis. SCHLICHTING et al., using a similar statistical approach, selected 2 laboratory, 2 clinical and 6 histological factors useful in the prognosis of liver cirrhosis. ORREGO et al., investigated the prognostic value of several variables to assess a global quantitative expression of severity in alcoholic liver disease.

Key-words: Cox's model; Liver; Liver cirrhosis; Prognostic score; Statistical validation; Survival time.

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Recently, Weissberg et al. analyzed the survival of 379 patients with chronic hepatitis B, 130 of whom with liver cirrhosis. Multivariate analysis revealed that age, ascites, spiders and bilirubin levels allow the identification of patients at higher risk of death. Naveau et al., on the basis of the multidimensional analysis according to the Cox's model, stressed that fibronectin, together with age, encephalopathy and serum albumin, has the best prognostic value in alcoholic cirrhotic patients. The selection of patients and variables is obviously crucial in this type of investigation; many of the above mentioned studies included the determination of different specific proteins or coagulation factors not routinely used in clinical practice, leading to different and not easily comparable results.

The aim of our study was to choose, among the most simple clinical and laboratory tests, the smallest set of variables having the highest correlation with long-term survival of cirrhotic patients and to obtain for each patient a 'prognostic score' that can reliably predict the survival time.

MATERIALS AND METHODS

Two different groups of patients were included in this study: a first group of 98 consecutively examined patients (study group) was used for complete statistical analysis in order to select the variables significantly correlated with the prognosis and to compute for each patient a prognostic score; in a second group of 53 patients (control group) subsequently observed, this prognostic score was applied and compared with the observed survival, so that an external validation of the statistical procedure was obtained.

Criteria for the selection of patients - Among all patients admitted to our hospital from January 1, 1975, those who fulfilled the following criteria were selected:

- diagnosis of liver cirrhosis by morphological methods (biopsy or laparoscopy) if allowed by clinical conditions or, in a minor part of cases, by unequivocal clinical evidence. Liver cirrhosis associated with hepatocellular carcinoma was excluded from the study;
- availability of informations on survival after discharge until the end of our investigation obtained by direct knowledge or by contacting the city register of deaths;
- routine laboratory and clinical screening at admission.

The patients have been followed up by the same medical staff. Patients admitted from January 1, 1975 to July 31, 1983 were included in the first group; those admitted from August 1, 1983 to December 31, 1985 were included in the control group. Deadline for each group survival was one month later than the last date of inclusion. The beginning of observation was assumed to be the first day of admission.

Study group - Ninety-eight patients (68 males and 30 females aged from 23 to 76 years) were included in the first group; 43 patients (43.8%) died during the observation period. The observation time ranged from 1 to 2,736 days (median 818); the shortest observation time for surviving patients was 138 days.

Control group - The second group included 53 patients (39 males and 14 females aged from 28 to 70 years); 11 patients (20.7%) died during the observa-