Clinical Aspects of Liver Diseases

21 Clinical and morphological principles

21 Clinical and morphological principles

1 Attempt at a systematic approach

Any attempt at setting up a systematic approach to liver disease has to incorporate the correlation between *morphological* and *functional* changes. At the same time, such an approach has to take account of *aetiological* and *pathogenic* factors. • However, any classification made is provisional by its very nature, since there is no uniform standpoint in this respect, and advances in medical knowledge can alter any such classification. (*see references* 2, 4, 9, 20)

1.1 Difficulties of systematization

► It must be borne in mind that only relatively minor morphological changes might be evident in functional liver insufficiency. • Moreover, apparently normal hepatic functions may also prevail despite pronounced morphological changes in the liver.

► Further consideration has to be given to the fact that different pathogenic factors may also trigger similar or even identical morphological changes as well as identical biochemical reactions.

The term **hepatopathy** (G. v. Bergmann, 1936) (s. p. 74) – which cannot be defined precisely – must be viewed as a noble attempt to classify all liver diseases with their respective morphological and functional changes as one single entity. It should be noted that in those days there was little chance of making a detailed diagnosis of a liver disease during the patient's life.

1.2 Need for systematization

As early as 1947, H. Kalk strongly emphasized the need to systematize liver disease in line with morphological aspects. Initially, his approach was founded on laparoscopic criteria, i. e. size, colour and superficial structures of the liver. • Pathohistological examination, however, is indispensable in the classification of most liver diseases. Liver diagnostics is based on four essential pillars, of which histology is still the most important and, in cases of doubt, the decisive factor in determining the diagnosis. (s. pp 75, 76)

Even though it is still difficult today to systematize liver diseases, any such attempt can be of help, providing it takes due account of the aetiology, the clinical picture and the morphological changes. This facilitates an overview of the different liver diseases, including their variants and complications, and makes for a better understanding of certain individual forms of disease and the way in which the various forms are interrelated.

2 Clinical forms of liver disease

2.1 Primary and secondary liver diseases

All liver diseases can be classified into two groups with diverse clinical, therapeutic and prognostic relevance:

1. Primary liver diseases
2. Secondary liver diseases

Primary liver diseases

The liver is primarily affected, and the involvement of the liver in the disease is paramount. A typical example would be acute viral hepatitis resulting from primary hepatotropic viruses. (s. tab. 5.16)

It is not possible to make a reliable *clinical* differentiation between the primary hepatotropic types of hepatitis; there are, however, certain distinctive hints derived from *histology* or immunohistology (e. g. HAV, HBV or HCV infection). Modern methods of *serology* and *immunology* render precise differentiation possible. • *Acute viral hepatitis does not exhibit any isolated specific morphological findings; it is the sum of the individual phenomena which results in the diagnosis.* (s. tab. 22.1)

Secondary liver diseases

The liver is secondarily affected by a systemic disease or shows a coreaction to extrahepatic organ processes. Involvement of the liver in the disease is not obvious. • Occasionally, the aetiology of the underlying disease can be diagnosed from liver biopsy material by means of characteristic morphological substrates or by the detection of pathogens. • In the majority of cases, these findings are ambiguous and are thus grouped together under the generic term "non-specific reactive hepatitis".

Non-specific reactive hepatitis

Concomitant hepatic lesions can occur as a consequence of a number of viral, bacterial, parasitic and mycotic infections as well as due to toxic effects. Owing to their ambiguity, however, these lesions do not allow closer aetiological specification. • *Therefore, the term "non-specific reactive hepatitis" is not actually considered to be a pathological entity in its own right.*

From the **pathohistological point of view,** the findings are (*1.*) degenerative liver cell changes with single focal liver cell necrosis, (*2.*) concomitant reaction of the Kupffer cells and formation of Kupffer cell nodules with a generalized reaction of the mononuclear phagocytosis system, usually inside dilated sinusoids, (*3.*) histiocytic and portal round-cell infiltration, and (*4.*) cholangitic reaction with sparse infiltrations of neutrophilic granulocytes around small bile ducts. (s. fig. 21.1)