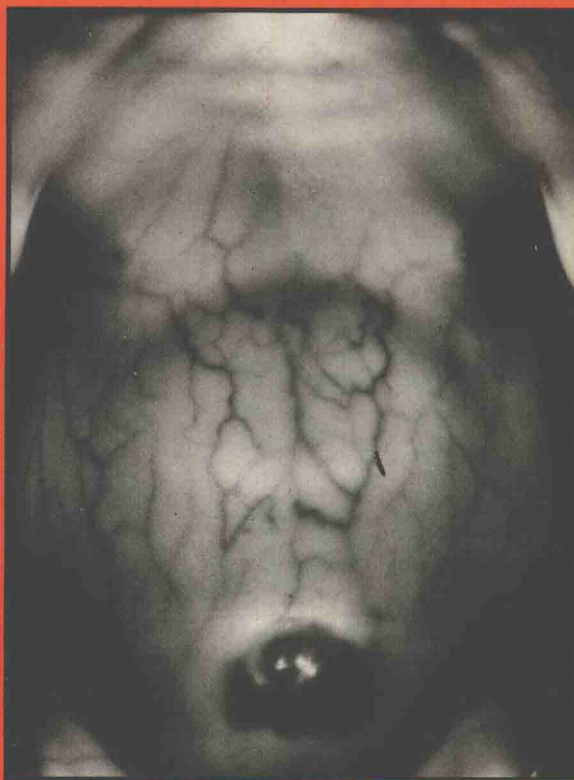


Color Atlas of
**Liver
Disease**

Sheila Sherlock
& John A. Summerfield



Color Atlas of Liver Disease

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Preface

Recent advances in hepatology have made it even more essential to be familiar with the clinical signs and pathology of liver disease. The correct management of patients is becoming increasingly dependent on a precise diagnosis. Our aim in this Atlas has been to compile an up-to-date and comprehensive collection of the physical signs, pathology and investigations of liver disease. This format has permitted the collection of a much larger number of high quality colour photographs than is normally possible in standard textbooks. However the Atlas should be used as a companion to the standard textbooks on the subject. For this reason the legends to the pictures have been ruthlessly pruned to keep them short; the pictures should speak for themselves. The book begins with a general chapter on the examination of the liver and the signs of liver disease. Subsequent chapters deal with the major groups of diseases affecting the liver, with their special signs.

We hope that clinical medical students and candidates for higher examinations, both medical and surgical, will find the Atlas a useful adjunct to their studies. General physicians, surgeons and gastro-enterologists will find a comprehensive survey of the signs of hepatology, including rare conditions that they will only occasionally encounter.

For systematic accounts, in particular of disease mechanisms and treatment, readers are recommended to consult the standard texts on liver disease, including Sherlock, S., *Diseases of the Liver and Biliary System*, Fifth Edition 1975, Blackwell Scientific Publications and Lippincott; Schiff, L., *Diseases of the Liver*, Fourth Edition 1975, Lippincott; Scheuer, P. J., *Liver Biopsy Interpretation*, Third Edition to be published in 1980, Baillière Tindall.

It is hoped that this book will withstand the barriers of language and time. The message should be understood by those whose first language is not English and after many current theories of disease and methods of investigation and treatment have been long forgotten.

NORMAL VALUES

Serum total bilirubin 0.3–1.0mg/100ml

5–17 μ mol/l

Serum aspartate transaminase (SGOT) 5–15iU/l

Prothrombin time 11–14 seconds

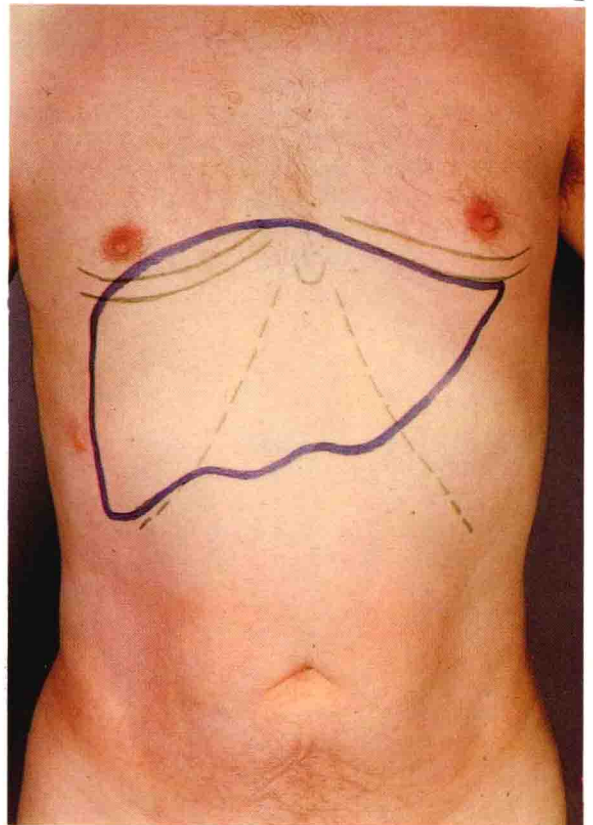
All the scales shown are in centimetres.

The magnification factors of histological slides
refer to the original 35mm colour transparencies.

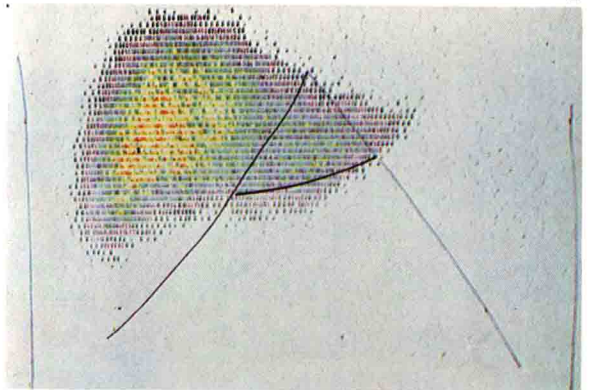
1. Clinical examination of the liver and biliary system

Examination of the liver

1. **The normal liver**, the largest organ in the body, weighs about 1.5kg. The upper border is at the level of the 5th rib, the lower border lies under the costal margin on the right. The lower edge is usually palpable in deep inspiration when the liver moves downwards. The upper border is defined by heavy percussion. Light percussion together with palpation will identify the lower border. An estimate of liver size can be obtained from the vertical length of dullness to percussion in the right mid clavicular line (usually 12–15cm). It is reduced in cirrhosis and fulminant hepatitis and is important in monitoring progress. Routine examination of the liver must include auscultation for friction rubs. These may be due to a recent liver biopsy or to a tumour. Arterial bruits may be related to acute alcoholic hepatitis or to primary liver cell cancer. Venous hums can be due to portal hypertension. The spleen is rarely palpable in health.



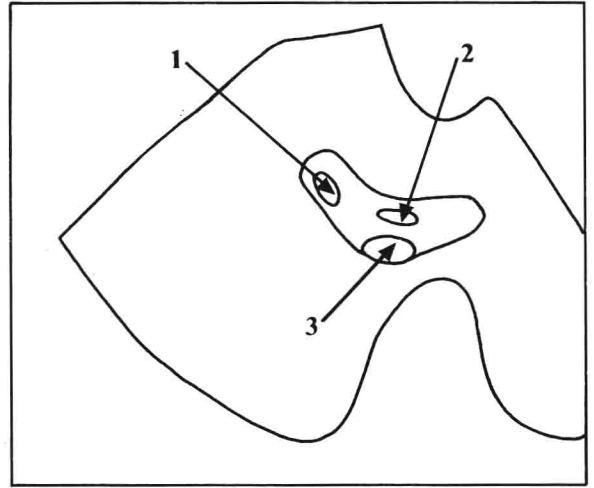
2. **Isotope scan of the liver.** An intravenous injection of the gamma emitting isotope ^{99}Tc is taken up by the reticulo-endothelial cells of the liver. The normal scan shows a uniform distribution of the isotope throughout the liver; no isotope uptake is seen in the spleen. Filling defects larger than about 2cm will be shown. In special circumstances other isotopes are employed. ^{67}Ga citrate is taken up by primary liver cell cancers and granulocytes in the walls of abscesses. These lesions give filling defects with a ^{99}Tc scan.



3

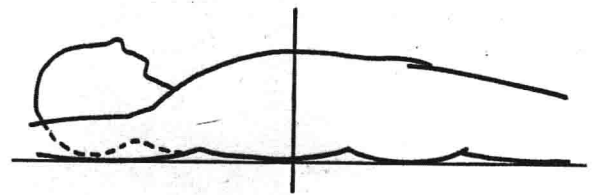


3. Grey scale ultrasonography reveals the liver as a large trans-sonic area. In addition, the portal vein (1), inferior vena cava (2) and aorta (3) are shown. The normal biliary system is not seen. This non-invasive technique also permits study of the portal venous system and the pancreas.

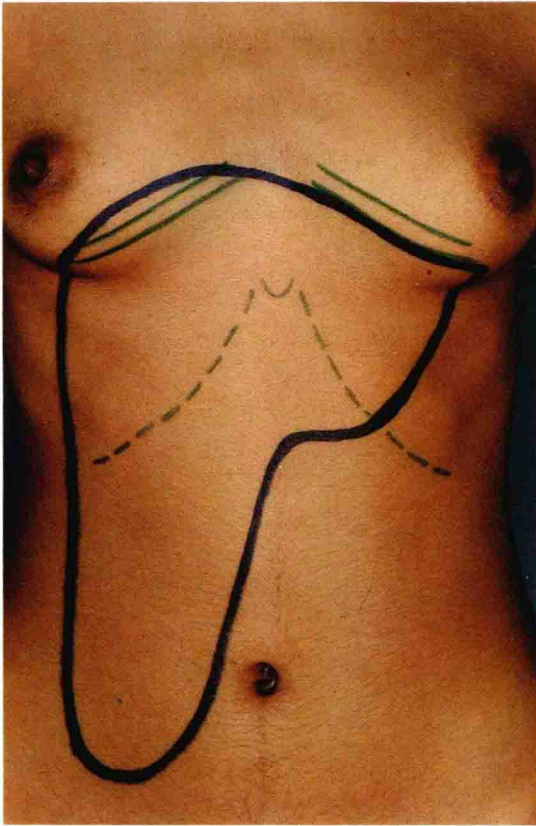


4. Computerised tomography of the liver shows the liver (1) and spleen (2) clearly. The line drawing at the top shows the level at which this CAT scan was taken. The scan also shows a vertebral body (3), aorta (4), pancreas (5) and stomach (6).

4



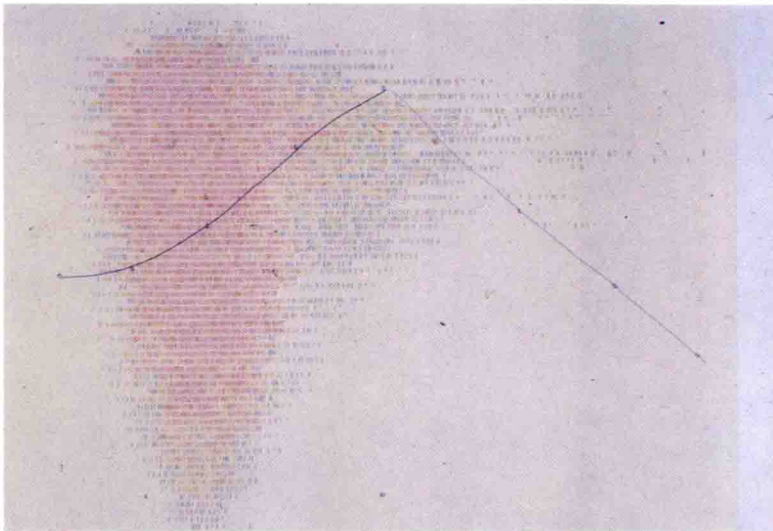
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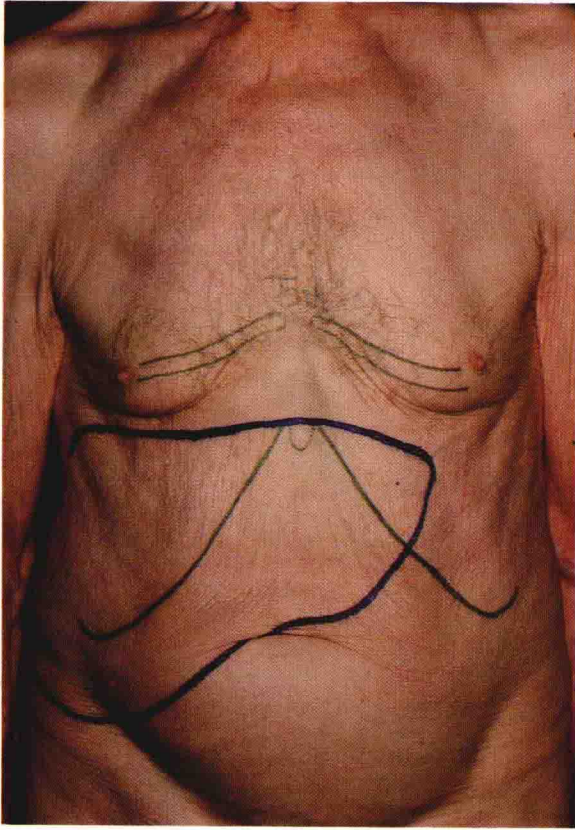
5. **Riedel's lobe.** The right lobe of the liver is enlarged by a tongue-like extension. This anatomical variation is more common in women and is of no consequence. It may be mistaken for a liver tumour or an enlarged right kidney.

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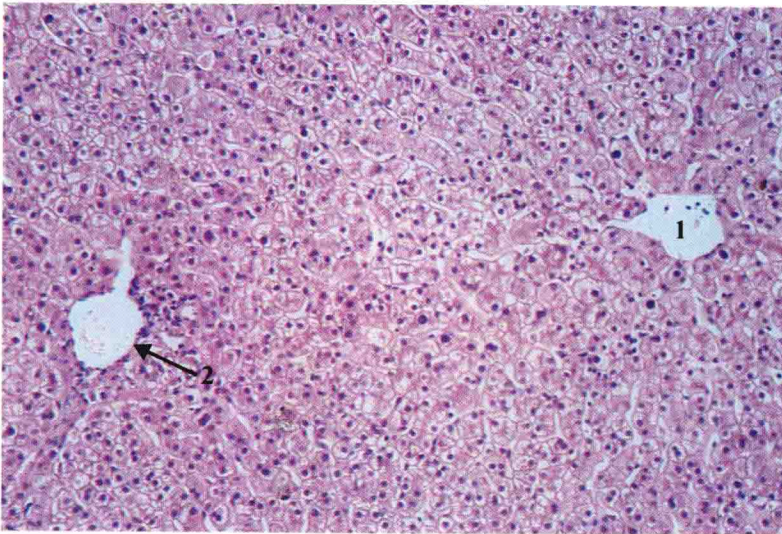
6



6. **Isotope scan** of the liver readily reveals a Riedel's lobe in this patient.



7. The liver in emphysema. Diseases, such as emphysema, which increase the volume of the chest may displace the liver downwards so that its lower edge is easily palpable. Percussion of the upper border of the liver will reveal that the liver is not enlarged. Late in the course of emphysema hepatomegaly is common, due to right heart failure.



8. Liver biopsy. The normal liver consists of sheets of hepatocytes, supported by a reticulin framework, separating hepatic veins in the centre from portal tracts at the periphery of the lobule. The *Haematoxylin and Eosin* stain ($\times 40$) shows the relationship between the hepatic veins (1) and portal tracts (2).