Abscesses, Cysts, and Parasitoses

Abscesses

Bacterial Abscesses

An abscess that has not yet collected has a semisolid echostructure that tends to become heterogeneous (Fig. 11.1). Later, when the abscess collects, the region of purulent necrosis becomes frankly liquid in appearance (Fig. 11.2) and may contain floating debris (Figs. 11.3, 11.5) or the debris may sediment at the bottom of the abscess. On the other hand, certain dense echoes are often seen in the upper part of an abscess (Fig. 11.4), and computed tomography (CT) has proved that these hyperechoic structures are, in fact, gas bubbles.

The walls of the abscess may be well defined. In the early abscess they are shaggy (Fig. 11.3), but as the necrosis progresses, they tend to become more regular (Fig. 11.2). There may or may not be enhanced transmission (reduced attenuation) through the abscess cavity. The phenomenon depends upon the attenuation of the pus. Some pus is relatively attenuating, whereas other pus attenuates only slightly and causes a pseudocystic appearance of posterior reinforcement.

There may be a hyperechoic halo around an abscess similar to the halo seen in the capillary phase of arteriography and on contrast-enhanced CT scans (Figs. 11.4, 11.5). Although the hepatic tissue outside the region of inflammation is normal, the inflammatory zone may be larger than the islands of necrosis (Fig. 11.5).

There may be several excavations within the lesion (Figs. 11.1, 11.5), and abscesses may also be multiple (for instance in septicemia). The examination must be meticulous so as to include all segments of the liver. Even if a nodular lesion is discovered at the beginning of the examination, there

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Fig. 11.1 a, b. Multiple bacterial abscesses. a This woman was febrile and jaundiced. A sagittal section shows several hypoechoic regions with poorly defined borders (arrowheads). Arrow, gallbladder; P, pleural effusion. b An identical section 4 days later. The abscesses have collected and their walls are not well defined. The bright echoes high in the lesions are probably due to gas bubbles. There is necrotic debris.
Fig. 11.2a–c. Bacterial abscess (arrows). 
a Sagittal section. b Recurrent oblique real-time scan. c Intercostal section. Note the weak posterior reinforcement related to the attenuation of pus. There are several echoes within the lesion.