Preface

The scope of application of chest sonography has been significantly widened in the last few years. Portable ultrasound systems are being used to an increasing extent in preclinical sonography, at the site of trauma, in the ambulance of the emergency physician or in ambulance helicopters. In the emergency room, at the intensive care unit and in clinical routine, chest sonography has proved its worth as a strategic instrument to be used directly after the clinical investigation. It helps the investigator to decide – very rapidly – whether a traumatized patient is suffering such severe internal hemorrhage that he or she needs to be transported to the operating room immediately or whether there still is time for further investigations like CT. Several diagnoses such as pneumothorax, pneumonia or pulmonary embolism can be established immediately.

The present new issue has been extended to include two subjects. Emergency sonography in the chest is getting more important every year. The evidence of interstitial syndrome has shown a significant correlation with extravascular lung water in cases of pulmonary edema and noncardiogenic pulmonary edema. An international consensus conference last year worked out the value of lung ultrasound in several conditions, e.g., pneumothorax, interstitial syndrome and lung consolidation.

Newborns, infants and children do not show a different picture than adults at lung ultrasound examination. Also the pathological changes described in adults' diseases are similar. The use of ultrasound in respiratory diseases of the newborn and the child needs to be encouraged not simply as a valid diagnostic alternative but as a necessary ethical choice. Ultrasound avoids the use of ionising radiation. Therefore sonography reduces the risk of developing malignancies later in life.

I am most deeply indebted to the team of authors for their creative cooperation and timely submissions. I also thank Springer-Verlag for their close collaboration and careful production of the book.

The purpose of this pictorial atlas is to help colleagues serve their patients better. It will hopefully enable clinicians to establish diagnoses rapidly at the patient's bedside with greater accuracy and efficiency, and to initiate appropriate therapeutic measures on time.

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