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Hisham Tchelepi

Ultrasound Interventions in the Neck with Emphasis on Postthyroidectomy Papillary Carcinoma **1**

Alexander S. Jung and Edward G. Grant

This article reviews the sonographic technique for a basic ultrasound of the thyroid and a typical postthyroidectomy surveillance scan. Diagnostic criteria for these scans are discussed. Ultrasound-guided biopsy of thyroid nodules is reviewed, as are techniques for biopsy of recurrent nodal disease or disease in the thyroid bed. Ultrasound-guided ablation techniques are described as they apply to patients who have undergone prior thyroidectomy.

Ultrasound-guided Biopsies of Peripleural Lung Lesions **17**

Shannon M. Gulla, Hisham Tchelepi, Brent T. Stedman, and Hollins P. Clark

Ultrasound is an alternative to the traditional CT-guidance most often used for lung biopsies. Although not appropriate for all thoracic biopsies, this technique can be a safe and effective choice for peripleural lung lesions. As emerging technologies, such as image fusion, gain wider acceptance, ultrasound-guided thoracic biopsy will be more than a footnote. This article reviews the advantages and disadvantages of ultrasound-guided biopsy for peripleural lung lesions, describes appropriate technique, and briefly discusses management of complications.

Ultrasound and Abdominal Intervention: New Luster on an Old Gem **25**

David D. Childs and Hisham Tchelepi

Ultrasound is a valuable tool for both diagnostic and therapeutic percutaneous applications in the abdomen. Numerous advantages over CT include faster procedure times, real-time needle visualization, decreased cost, and a lack of ionizing radiation. Newer technology, such as image fusion, has allowed the radiologist to simultaneously use the advantages of two modalities, ultrasound and CT or MR imaging, to localize lesions. Because regulatory bodies in the United States are becoming more aware of the risks of radiation exposure to the population from CT, ultrasound will regain its position as the first diagnostic imaging modality, and may become the imaging modality of choice for all interventions.

Ultrasound-Guided Kidney Biopsies **45**

Yueh Z. Lee, JulieAnne McGregor, and Wui K. Chong

Sonography is an excellent modality for guidance of renal biopsy. Ultrasound can detect potential pitfalls, direct proper placement of the needle, and identify complications. Interventional radiology or surgical support should be available in the event of complications.

Ultrasound-Guided Radiofrequency Ablation Within the Abdomen**57**

John P. McGahan and Wayne Monsky

Ultrasound alone can be used to guide treatment of many hepatic tumors. In the kidney, combination of ultrasound and CT is often used. Ultrasound may be used for needle placement, whereas CT is used to identify vital structures that may overlie the treated lesion, such as the ureter or adjacent bowel. Several different technical factors must be mastered before performing radiofrequency ablation in the abdomen to minimize complications and maximize results.

Pelvic Drainage: Image Guidance and Technique**73**

Carol L. Phillips, Petra L. Williams, and Anthony F. Watkinson

Management of pelvic abscesses and collections can be challenging in terms of their localization and subsequent access for purposes of aspiration or drainage. Although formerly the territory of surgeons, improvements in imaging technology and applied techniques now enable interventional radiologists to perform percutaneous or endocavitary drainage of even the most difficult abscesses. Various combinations of imaging modality and route of access can be used depending on the location of the abscess, individual patient constraints, and operator preference. This article focuses on the different ultrasound-guided techniques used for pelvic drainage, including difficult access, and, equally important, discusses when it is not appropriate.

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