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Douglas S. Katz and John J. Hines Jr

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Mostafa Alabousi, Evan Wilson, Rayeh Kashef Al-Ghetaa, and Michael N. Patlas

"Incidentalomas" are a common part of daily practice for radiologists, and knowledge of appropriate management guidelines is important in ensuring that no potentially clinically relevant findings are missed or are lost to follow-up in asymptomatic patients. Incidental findings of the brain, spine, thyroid, lungs, breasts, liver, adrenals, spleen, pancreas, kidneys, bowel, and ovaries are discussed, including where to find guidelines for management recommendations, how to follow them, and medical-legal considerations.

Preparing for the Unexpected: A Review of Incidental Extraspinal Findings on Computed Tomography/Magnetic Resonance Imaging of the Spine 511

Michael Gottesman, Roshni R. Patel, Gregory Parnes, and A. Orlando Ortiz

Potentially clinically important incidental/unexpected extraspinal findings occur with sufficient frequency in cross-sectional imaging of the spine to warrant the radiologist's careful consideration, regardless of whether the interpreter is a neuroradiologist, a musculoskeletal radiologist, an emergency radiologist, or a generalist. Awareness of the commonly encountered incidentalomas and the anatomy contained within the field of view of cervical, thoracic, and lumbar spine cross-sectional imaging examinations, respectively, assists radiologists in their efficient and accurate analysis. This article familiarizes radiologists with some of the potential relevant extraspinal findings that may be encountered, and recommends an extraspinal search pattern for each spinal segment.

Incidental Thyroid Nodules on Imaging: Relevance and Management 525

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Incidental thyroid nodules (ITNs) are commonly detected on imaging examinations performed for other reasons, particularly computed tomography (CT) (and now PET-CT and even PET-MR imaging), MR imaging, and sonography, primarily a consequence of the increasing sensitivity of these diagnostic modalities. Appropriate management of ITNs is crucial to avoid the cost and medical consequences of unnecessary workups.

Incidental Lung Nodules on Cross-sectional Imaging: Current Reporting and Management 535

Lea Azour, Jane P. Ko, Sophie L. Washer, Amelia Lanier, Geraldine Brusca-Augello, Jeffrey B. Alpert, and William H. Moore

Pulmonary nodules are the most common incidental finding in the chest, particularly on computed tomographs that include a portion or all of the chest, and may be encountered more frequently with increasing utilization of cross-sectional imaging. Established guidelines address the reporting and management of incidental pulmonary nodules, both solid and subsolid, synthesizing nodule and patient features to distinguish benign nodules from those of potential clinical consequence. Standard nodule assessment is essential for the accurate reporting of nodule size, attenuation, and morphology, all features with varying risk implications and thus management recommendations.

Incidental Breast Findings on Computed Tomography and MR Imaging 551

Daniella Asch, Grace DeWitt, and Regina Hooley

Computed tomography (CT) and magnetic resonance (MR) imaging may demonstrate a wide variety of incidental findings in the breast, including primary breast carcinoma, the second most common cancer in women. It important to recognize the spectrum of pathologic conditions in order to properly assess the need for further workup. Some findings may be diagnosed as benign on the basis of CT/ MR imaging and clinical history alone, whereas others will require evaluation with dedicated breast imaging and possibly biopsy. This article serves to guide radiologists' management of the wide spectrum of incidental breast findings encountered on cross-sectional imaging.

Incidental Liver Findings on Cross-sectional Imaging 569

Adam C. Searleman, Lejla Aganovic, and Cynthia S. Santillan

Hepatic incidental findings often are seen on cross-sectional imaging examinations of the chest, spine, pelvis, or other nondedicated hepatic imaging. Radiologists are tasked with appropriately triaging, which requires further evaluation, even in the setting of an otherwise limited evaluation. This article reviews common benign entities encountered on ultrasound, computed tomography, or magnetic resonance imaging, along with their characteristic imaging features. Imaging features that are suspicious for malignancy or suggest the need for further evaluation also are discussed. Two algorithms are proposed to guide radiologists in their recommendations based on patient risk factors, focal hepatic abnormality size, and available imaging features.

Incidental Adrenal Nodules 591

Daniel I. Glazer, Michael T. Corwin, and William W. Mayo-Smith

Incidentally detected adrenal nodules are common, and prevalence increases with patient age. Although most are benign, it is important for the radiologist to be able to accurately determine which nodules require further testing and which are safely left alone. The American College of Radiology incidental adrenal White Paper provides a structured algorithm based on expert consensus for management of incidental adrenal nodules. If further diagnostic testing is indicated, adrenal computed tomography is the most appropriate test in patients for nodules less than 4 cm. In addition to imaging, biochemical testing and endocrinology referral is warranted to exclude a functioning mass.

Incidental Splenic Findings on Cross-Sectional Imaging 603

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Incidental splenic focal findings are commonly encountered in clinical practice and frequently represent a diagnostic dilemma due to nonspecific imaging features. Most are benign, particularly in patients without a history of malignancy and without symptoms of fever, weight loss, or left upper quadrant or epigastric pain. Incidental malignant splenic processes are exceedingly rare. This article reviews imaging characteristics of incidental focal splenic findings, and proposes a practical approach for management of such findings, which can prevent unnecessary workup and its related drawbacks in clinical practice.

Incidental Pancreatic Cysts on Cross-Sectional Imaging 617

Shannon M. Navarro, Michael T. Corwin, Douglas S. Katz, and Ramit Lamba

Incidental pancreatic cysts are commonly encountered in radiology practice. Although some of these are benign, mucinous varieties have a potential to undergo malignant transformation. Characterization of some incidental pancreatic cysts based on imaging alone is limited, and given that some pancreatic cysts have a malignant potential, various societies have created guidelines for the management and follow-up of incidental pancreatic cysts. This article reviews the imaging findings and work-up of pancreatic cysts and gives an overview of the societal guidelines for the management and follow-up of incidental pancreatic cysts.

The Incidental Renal Mass- Update on Characterization and Management 631

John J. Hines Jr, Katherine Eacobacci, and Riya Goyal

Renal masses are commonly encountered on cross-sectional imaging examinations performed for nonrenal indications. Although most can be dismissed as benign cysts, a subset will be either indeterminate or suspicious; in many cases, imaging cannot be used to reliably differentiate between benign and malignant masses. On-going research in defining characteristics of common renal masses on advanced imaging shows promise in offering solutions to this issue. A recent update of the Bosniak classification (used to categorize cystic renal masses) was proposed with the goals of decreasing imaging follow-up in likely benign cystic masses, and therefore avoiding unnecessary surgical resection of such masses.

Spectrum and Relevance of Incidental Bowel Findings on Computed Tomography 647

John J. Hines Jr, Mark A. Mikhitarian, Ritesh Patel, and Andy Choy

A wide spectrum of incidental bowel findings can be seen on CT, including but not limited to, pneumatosis intestinalis, diverticular disease, non-obstructive bowel dilatation, transient small bowel intussusception, and submucosal fat. Radiologists should be aware that such findings are almost always benign and of little clinical significance in the absence of associated symptoms. Conversely, vigilance must be maintained when evaluating the bowel, because malignant neoplasms occasionally come to clinical attention as incidental imaging findings. When suspicious incidental bowel wall thickening is detected, the radiologist can alert the clinical team to the finding prior to the patient becoming symptomatic, potentially leading to definitive management at an early, more curable stage.

Incidental Ovarian and Uterine Findings on Cross-sectional Imaging 661

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Incidental adnexal masses and uterine findings occur with a high frequency on cross-sectional imaging examinations, particularly in postmenopausal women in whom imaging is performed for a different reason. These incidentalomas encompass a gamut of potential pelvic gynecologic disorders. Most are benign ovarian cysts; however, other less commonly encountered disorders and improperly positioned gynecologic devices may be seen. A knowledge of the management recommendations for such pelvic incidental findings is critical to avoid unnecessary imaging and surgical interventions, as well as to avoid failure in diagnosis and management of some of these conditions.