

Oncological imaging of the abdomen and pelvis: Spectrum of trends and advances

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Abstract

Advancements in medical imaging have brought about unprecedented changes in the assessment, management and post-treatment follow-up of cancer. Sonography, positron emission tomography, computed tomography and magnetic resonance imaging are the primary tools being developed for oncological imaging. Advancements in these modalities, the introduction of new imaging and treatment techniques, as well as recent management of tumors, have led to continuous changes in diagnosis and treatment. Herein, we discuss the wide spectrum of imaging trends and advances.

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have put together a group of expert faculty members to cover a spectrum of advances and trends in oncological imaging of the abdomen^[1-9]. Because these advances cannot be covered in a single issue, we are covering several of these trends and state-of-the-art diagnostic algorithms to diagnose a spectrum of abdominal and pelvic cancers.

The first three articles^[1,5,8] discuss examples of practical imaging techniques and their roles in abdominal and pelvic imaging; these techniques include intraoperative sonography and sonohysterography as examples of sonography techniques, computed tomography (CT) virtual colonoscopy as a CT technique, and diffusion-weighted imaging as a magnetic resonance imaging technique.

Sonohysterography enhances the endometrial visualization achieved with standard transvaginal sonography, which entails instillation of normal saline into the endocervical canal to enhance detection of endometrial abnormalities and further define potential abnormalities initially detected by standard transvaginal sonography^[4].

The advent of new transducers with focal beam technology and a higher frequency has solidified the role of intraoperative sonography as an invaluable imaging modality in oncological surgery of the liver, kidneys and pancreas^[1].

CT colonography was first introduced by Ganeshan *et al*^[2] in 1994 as an alternative imaging method for evaluating the colon. In this technique, helical CT data are used to produce three-dimensional images to simulate a virtual endoluminal view (also called virtual colonoscopy). High sensitivity rates for colorectal cancer can be obtained using this method.

In the fifth article, Korivi *et al*^[5] discuss the spectrum of cross-sectional work-up in adrenal imaging.

In the sixth article, Tamm *et al*^[6] discuss state-of-the-art imaging in pancreatic ductal adenocarcinoma.

In the seventh and eighth articles, patterns of various tumors are discussed. Le^[7] illustrates peritoneal spread patterns of various abdominal and pelvic tumors. Wasnik *et al*^[8] illustrate the current work-up of benign and malignant cystic ovarian masses.

Finally, Peungjesada *et al*^[9] at the University of Texas MD Anderson Cancer Center focus on current trends

In this special issue of the *World Journal of Radiology*, we

in the radiological evaluation of treatment response as a crucial task in oncology-one shared by clinicians, radiologists and pathologists.

We hope that this issue will stimulate your interest in oncological imaging of the abdomen and pelvis.

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