Colorectal cancer screening: a challenge for magnetic resonance colonography.

Abstract:
The high incidence of colorectal carcinoma and the fact that colorectal cancer mostly arises from benign adenomas have led to recommendations for screening programs. The introduction of ultrafast three-dimensional datasets acquired by cross-sectional imaging modalities (computed tomography or magnetic resonance imaging) in combination with new postprocessing modes, known as virtual endoscopy, has led to new discussion on the recommendation of screening tests for colorectal cancer. Published results have indicated a high sensitivity for computed tomographic colonography and magnetic resonance-based colonography. Both techniques currently must be combined with colon cleansing. Three-dimensional data acquisition for magnetic resonance-based colonography is less than 1 minute using three-dimensional gradient-echo sequences. The lack of ionizing radiation, the low risk and discomfort to patients, and new techniques of minimized patient preparation make this magnetic resonance technique an attractive diagnostic procedure for colorectal lesions, with many aspects for use as a screening method.