Prostate cancer: state of the art imaging and focal treatment.

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Abstract
In 2016, it is estimated 180,890 men are newly diagnosed with prostate cancer and 3,306,760 men live with prostate cancer in the United States. The introduction of multiparametric (mp) magnetic resonance imaging (MRI) of the prostate, standardised interpretation guidelines such as Prostate Imaging Reporting and Data System (PI-RADS version 2), and MRI-based targeted biopsy has improved detection of clinically significant prostate cancer. Accurate risk stratification (Gleason grade/score and tumour stage) using imaging and image-guided targeted biopsy has become critical for the management of patients with prostate cancer. Recent advances in MRI-guided minimally invasive ablative treatment (MIAT) utilising cryoablation, laser ablation, high-intensity focused ultrasound ablation, have allowed accurate focal or regional delivery of optimal thermal energy to the biopsy proven, MRI-detected tumour, under real-time or near simultaneous MRI monitoring of the ablation zone. A contemporary review on prostate mpMRI, MRI-based targeted biopsy, and MRI-guided ablation techniques is presented.

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