Is Pre-Operative MRI Really A Must for Robotic-Assisted Laparoscopic Radical Prostatectomy (RaLRP)?

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Objective:
To evaluate MRI with endorectal coil (ER-MRI) in detecting laterality of tumor and T staging on patients with localized prostate cancer before RaLRP

Patients & Methods:
Between November 2007 and February 2014, 149 patients were recruited. All patients had biopsy-confirmed disease and ER-MRI before operation. ER-MRI and prostatectomy pathology findings were correlated.

Results:
ER-MRI staged 104 patients as T2 disease, 14 patients as T3 disease and did not detect any tumor in 31 patients. Pathology showed T2 disease in 127 patients, T3 disease in 20 patients and no tumor in 2 patients. Laterality of tumor reported by ER-MRI was consistent with pathology findings in 46.4% of patients. ER-MRI sensitivity, specificity, PPV and NPV resulted respectively 0.70, 0.32, 0.86 and 0.16 for T2 disease and 0.20, 0.92, 0.29 and 0.88 for T3 disease. For low-risk tumor classified with D'Amico risk stratification system, ER-MRI appears most accurate to confirm T2 disease and rule out T3 disease with PPV of 0.97 and NPV of 0.97 respectively.

Conclusion:
While ER-MRI is far from perfect as pre-op assessment tool for prostate cancer, it is very accurate to confirm organ confined disease in low-risk patients. Judicious use and interpretation of ER-MRI is important.