

MRI with or without Biopsy as a Confirmatory Test in Newly Diagnosed Favorable Risk Prostate Cancer Aids in Decision-Making

Rohith Arcot*, Kevin Ginsburg, Detroit, MI, Ji Qi, Susan Linsell, Deborah Kaye, Ann Arbor, MI, Arvin George, Michael Cher, Detroit, MI, for the Michigan Urological Surgery Improvement Collaborative, Ann Arbor, MI

INTRODUCTION AND OBJECTIVES: Confirmatory tests may be used after the diagnosis of favorable risk prostate cancer to improve decision-making with regard to active surveillance. How reassuring (RA) or non-reassuring (nonRA) MRI and post-MRI biopsy (pMRI-Bx) results affect decision-making in men considering active surveillance (AS) remains unknown.

METHODS: This is a retrospective study of men in the Michigan Urological Surgery Improvement Collaborative (MUSIC) with newly diagnosed favorable risk prostate cancer (any amount of GG1 or ≤ 3 cores GG2) who obtained an MRI within 6 months of diagnostic biopsy (dBx). MRI results were either RA (PIRADS ≤ 3) or nonRA (PIRADS ≥ 4). Results of pMRI-Bxs, obtained with or without fusion technology, were considered nonRA if there was any amount of \geq GG2 if the dBx was GG1, or >3 cores GG2, $>50\%$ GG2 in any individual core, or any volume of \geq GG3 if the dBx was GG2.

RESULTS: From June 2016 to April 2017, 157/238 (66%) men had MRI alone and 81/238 (34%) men had MRI and pMRI-Bx. Of 157 men with MRI alone, 105 (67%) had a RA MRI, of which 78/105 (74%) chose AS. In contrast, 52 (33%) men had a nonRA MRI, of which only 18/52 (35%) chose AS. Of the 81 men with MRI and pMRI-Bx, the MRI results were RA and nonRA in 32 (40%) and 49 (60%), respectively. Of the men with RA MRI, 28/32 (88%) had pMRI-Bx results that were RA, of which 26/28 (93%) chose AS. Of the men with a nonRA MRI, 26/49 (53%) had pMRI-Bx results that were RA, of which 25/26 (96%) chose AS. Using Kaplan-Meier analysis, men with RA MRI alone had higher estimated 1 year treatment-free probability than men with nonRA MRI alone (78% vs. 38%, $p < .001$). Men with either RA or nonRA MRI followed by RA pMRI-Bx had significantly higher 1 year treatment free probability compared with men with nonRA MRI and nonRA pMRI-Bx (96% vs. 96% vs. 35%, $p < .001$).

CONCLUSIONS: MRI results alone informs decision-making in men considering AS; pMRI-Bx is the primary driver as evidenced by the high proportion (~90%) of men with RA-pMRI-Bx who pursued AS regardless of MRI results.

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Figure 1a. Kaplan-Meier curves of time to definitive treatment among patients with MRI only, stratified by MRI result

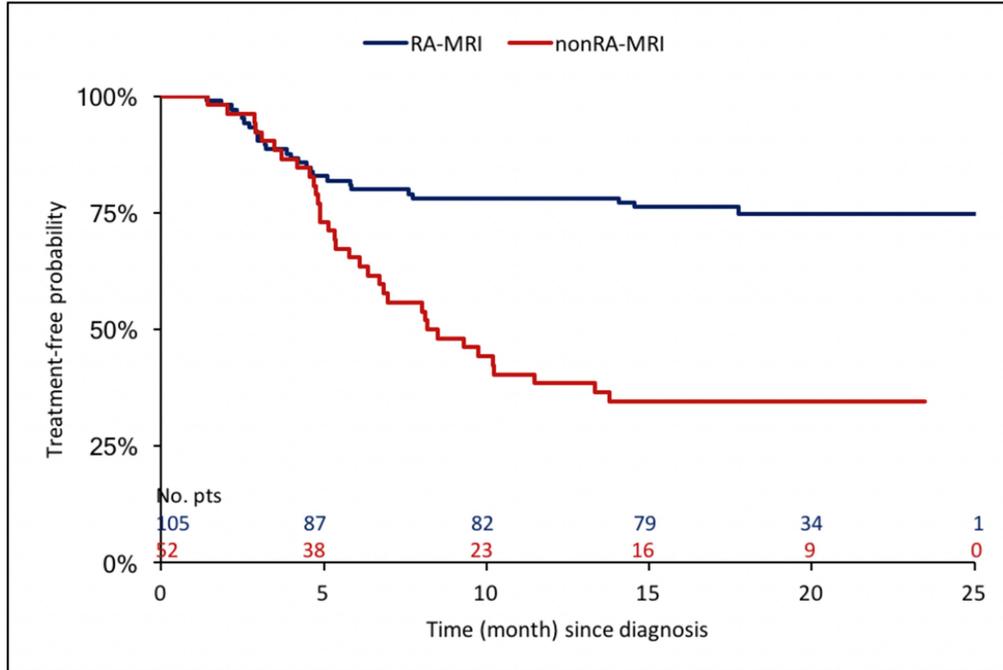


Figure 1b. Kaplan-Meier curve of time to definitive treatment among patients with MRI+biopsy, Stratified by MRI and biopsy result

