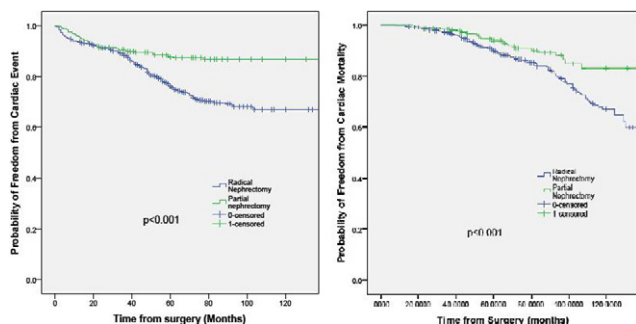


ative GFR<60 (45.7% vs. 18%, $p < 0.001$) and de novo HL (23% vs. 6.4%, $p < 0.001$) were noted. Over mean follow up of 78 months, higher percentage of RN had CE (27.7% vs. 12.9%, $p < 0.001$) and CD (19% vs. 9.8%, $p < 0.001$). Five-year freedom from CE was 75.7% for RN vs. 87.7% for PN ($p < 0.001$, Figure 1). Five-year freedom from CD was 90% for RN vs. 94% for PN ($p < 0.001$, Figure 1). MVA demonstrated HL (OR 77, $p < 0.001$), GFR<60 (OR 2.64, $p < 0.001$), RN (OR 1.76, $p = 0.0030$), and hypertension (OR 1.4, $p = 0.04$) as significantly associated with CE after surgery.

CONCLUSIONS: In addition to standard risk factors for CE, we identified RN as an independent risk factor for cardiac morbidity. Risk of CE may be mitigated by performing PN, which has lower rates of CKD and HL than RN.



Source of Funding: None

Prostate Cancer: Detection & Screening (II)

Moderated Poster Session 54

Tuesday, May 7, 2013

8:00 AM-10:00 AM

1466

COULD USE OF MRI IN MEN REFERRED FOR RISK OF PROSTATE CANCER RESULT IN A REDUCTION OF BIOPSY RELATED MORBIDITY WHEN COMPARED TO THE ERSPEC AND PCPT RISK CALCULATORS FOR DECISION TO BIOPSY?

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INTRODUCTION AND OBJECTIVES: The number of men referred for assessment of prostate cancer risk has increased since the widespread use of PSA testing. Numerous strategies have been proposed to more accurately predict the chance of a patient being diagnosed with a clinically significant prostate cancer. The European Randomised Study of Screening for Prostate Cancer (ERSPC) and Prostate Cancer Prevention Trial (PCPT) risk calculators have been derived and validated from large volume studies and we compared these with the use of MRI to aid the biopsy decision in a cohort of men.

METHODS: 217 men referred using the urgent suspected prostate cancer pathway were offered a multi-parametric MRI prior to a discussion regarding biopsy. The ERSPC and PCPT risk calculators were applied to compare how many patients would have undergone biopsy using a calculator and the predicted biopsy associated morbidity. Morbidity from biopsy was calculated using data from the ProtecT study (Rosario et al, 2012.)

RESULTS: Data for formal risk calculation was available for 167 men. Of these, 104 (52.2%) chose biopsy after a discussion incorporating MR findings into prostate cancer risk assessment. 70/104 (67.3%) had cancer, of which 49/70 (70%) was clinically significant. Use of the PCPT or ERSPC calculator to inform the biopsy decision would have resulted in 166 (99.4%) and 147 (88%) of men having a biopsy. Use of MRI to inform the decision to biopsy resulted in fewer

biopsies than would have been suggested by either calculator. The reduction in biopsies using an MRI based approach is predicted to have reduced biopsy related morbidity by the absolute numbers in the table below.

CONCLUSIONS: Both the ERSPC and PCPT risk calculators would result in significantly higher numbers of men undergoing prostate biopsy and increased average numbers of cores taken compared to using a pre-biopsy MRI approach. This leads to higher costs and a predicted increase in biopsy related morbidity.

	PCPT		ERSPC	
	Present	Moderate/ Severe	Present	Moderate/ Severe
Pain	27.0	4.5	18.7	3.1
Fever	10.9	3.4	7.5	2.4
Haematuria	40.8	3.8	28.3	2.7
Haematospermia	57.4	16.5	39.8	11.4
Haematochezia	22.8	1.6	15.8	1.1

Source of Funding: None

1467

USEFULNESS OF MRI PRIOR TO PROSTATE NEEDLE BIOPSY IN PSA GRAY ZONE PATIENTS

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INTRODUCTION AND OBJECTIVES: Serum prostate-specific antigen (PSA) testing, digital rectal examination (DRE), and transrectal ultrasound (TRUS) are commonly used as screening tools for prostate cancer. Magnetic resonance imaging (MRI) has also become used more often for diagnosis, because enhanced MRI and diffusion-weighted imaging has been utilized in many institutions and their tumor detection ability has improved. We evaluated the usefulness of MRI prior to prostate needle biopsy.

METHODS: The patient group consisted of 456 males who showed an elevated PSA level in the gray zone ($4\text{ng/ml} < \text{PSA} < 10\text{ng/ml}$) and also underwent DRE, TRUS, and MRI prior to prostate biopsy between April 2005 and August 2012. The results of pre-biopsy parameters were compared with those of prostate biopsy.

RESULTS: Prostate cancer was pathologically diagnosed in 189 (41.4%) patients. The number of patients with a positive MRI image was 178 (39.0%), and MRI showed a sensitivity of 58.2%, specificity of 74.5%, positive predictive value of 61.8%, and negative predictive value of 71.6%. Cancer detection rate of patients showing positive for both DRE and TRUS was 71.7%. Furthermore, it was increased to 81.8% if positive in all exams. However, 25.1% of patients negative in all exams were biopsy positive. In comparison between patient group positive for either one of these tests and that negative for all tests, there was no significant difference between the subgroup for a Gleason score of 6 or less and the subgroup for a score of 7 or more when using only DRE and TRUS, but the subgroup for a Gleason score of 6 or less was significantly higher in the all negative group when the MRI was added ($p\text{ value} = 0.0008$). Furthermore, a positive biopsy result for 2 or fewer samples was observed in either group, with no statistical significance ($p = 0.057$). In addition, when comparing the subgroup for PSA density of less than 0.15ng/ml and the subgroup of more than 0.15ng/ml in the group showing negative for all exams, the number of patients with a Gleason score of 6 was significantly larger in the former group ($p = 0.036$) with only one case of Gleason score > 6 .

CONCLUSIONS: Our study shows that combining the MRI with the traditional DRE and TRUS enables a higher cancer detection rate, so MRI can become a screening tool for prostate cancer in males. Furthermore, considering the PSA density enables prediction of cancer malignancy grade, i.e., pathological Gleason score.

Source of Funding: None