the likelihood of a positive biopsy. The positive biopsy rates were 57%, 72% and 88% when the lesion was <1 cm, 1-2 cm, or >2 cm, respectively. For the length increase, the change in positive biopsy rate for lesions from <1 cm to 1-2 cm using <1 cm as reference, and from 1-2 cm to >2 cm using 1-2 cm as a reference, the OR was 2.5 (1.35-4.45, p= 0.003).

CONCLUSIONS: E-coil MRI has a high level of sensitivity in identifying cases of local recurrence of prostate cancer, even at low PSA levels. This imaging modality should be considered in the evaluation of biochemical recurrence to help guide TRUS prostatic fossa biopsies and identify patients suitable for localized salvage therapy.

Source of Funding: None

2042

EVALUATION OF THE VESICOURETHRAL ANASTOMOSIS POST RADICAL PROSTATECTOMY - TRANSRECTAL ULTRASOUND VERSUS CYSTOGRAPHY

Andreas Bannowsky, Nasim Mosaheb, Alexandra Raileanu, Samer Schakaki, Isis Vollmer, Osnabrück, Germany; Klaus-Peter Jünemann, Kiel, Germany; Hermann van Ahlen, Osnabrück, Germany*

INTRODUCTION AND OBJECTIVES: Evaluation of the vesicourethral anastomosis after radical retropubic prostatectomy in prostate cancer is usually perfomed by cystography. The transrectal ultrasound of the prostate (TRUS) is mainly utilized to get anatomical information like volume determination, tumor detection and extension. In a prospective, two-institutional study we compared TRUS with cystography after radical retropubic prostatectomy in the evaluation of the vesicourethral anastomosis.

METHODS: In 212 patients the vesicourethral anastomosis was evaluated by TRUS (7 MHz) followed immediately by cystography on day 7-14 after radical prostatectomy. Sonographically all patients were evaluated for hematomas, lymphoceles and leakages of the anastomosis, controlled by irrigation (100 - 120 ml 0.9% saline solution) during real time TRUS examination. All TRUS and "x-ray" findings, duration of the examination and dose of radiation were separately documented and compared. Leakages and hematomas (cystogram: bladder displacements or impressions) were compared with the TRUS findings and statistically evaluated.

RESULTS: 52 of the 212 patients (24.5%) showed an extravasation. In 39 cases (18.4%) this was seen by cystography and TRUS. 9 patients (4.2%) with leakage, were identified only by TRUS without radiographic correlation. The topographic localisation of the leakage was in 94% the dorsal part of the anastomosis. In 12 cases (5.6%) hematomas were identified only by TRUS without any correlation in the cystography, 5 in continuity with the anastomosis were responsible for a persisting hematuria and 2 were the cause for temporary bladder outlet obstruction. The source for bladder impressions due to paravesical lymphoceles could be identified by TRUS in 10 cases (4.7%). The duration of examination differed significantly with 5.4 minutes for TRUS vs. 8.7 minutes for cystography. No significant differences existed between the two institutions.

CONCLUSIONS: In the evaluation of the anastomosis after radical prostatectomy TRUS shows the same efficiency as the usually perfomed cystography. It allows an online assessment of postoperative topography, like hematomas or lymphoceles, and dynamic evaluation (exact localisation and dimension) of inefficient anastomosis omitting the cystography. The radiation exposition for the medical staff and patient can be reduced by using TRUS. Treatment costs e.g. x-ray and contrast medium are decreased. Due to the good results TRUS replaced the cystography at the two institutions participated in this study.

Source of Funding: None

2043

RELATIONSHIP BETWEEN PHYSICAL EXAMINATION, DYNAMIC MRI, AND INTRA-OPERATIVE FINDINGS IN THE TREATMENT OF PELVIC ORGAN PROLAPSE

Forrest Jellison, Ngoc-Bich Le, A Lenore Ackerman, Lisa Rogo-Gupta, Denise Chow, Karim Chamie, Steven Raman, Larissa V Rodriguez, Shlomo Raz, Los Angeles, CA*

INTRODUCTION AND OBJECTIVES: The purpose of this study is to determine the relationship between physical examination (PE), dynamic MRI, and operative findings in the surgical repair of pelvic organ prolapse (POP).

METHODS: A cohort of 71 patients who underwent surgical repair for anterior compartment prolapse between 2009 and 2011 were selected for a retrospective analysis. Clinical symptoms were determined by validated questionnaires. Preoperative PE and dynamic MRI findings were compared with the intraoperative findings of the anterior, apical and posterior compartments. Dynamic MRI employed a previously described limited T2 weighted Haste sequence.

RESULTS: A total of 71 patients with a mean age of 64 (range of 33-99, and median 65) were included. The median parity was 2 (range 0–9). The mean score of the PFDI-20 and PFIQ-8 were 125 and 269, respectively.

Anterior compartment repair was performed for the entire cohort with concomitant surgical repairs in 89%—49% had apical compartment repair and 74% had repair of the posterior compartment.

When dynamic MRI was compared to intraoperative findings, detection of apical compartment prolapse (uterine or vault) had a sensitivity of (100%, 100%), specificity (70%, 95%), and ROC (0.85, 0.97). In contrast, when PE was compared to intraoperative findings of apical compartment prolapse (uterine or vault), detection rate had a sensitivity of (42%, 33%), specificity (86%, 93%), and ROC (0.64,0.63), respectively.

In evaluation of the posterior compartment, dynamic MRI and PE had a sensitivity (76%, 85%), specificity (16%, 63%), and ROC (0.16, 0.74) when compared to intraoperative findings.

Anterior compartment prolapse detection rates of (93%, 96%) were similar when dynamic MRI and PE were compared to intraoperative findings.

Dynamic MRI had additional anatomical findings in 34% of the patients (simple and complex ovarian cysts, nabothian cyst, uterine fibroids, sacral cysts, umbilical and inguinal hernias, ureteral stone, bladder thickening, and hydronephrosis of the kidney).

CONCLUSIONS: Dynamic MRI was able to predict prolapse for all compartments, but is moderately less reliable for posterior compartment when compared with intraoperative findings. PE was able to predict anterior compartment prolapse but is less reliable for apical and posterior compartments when compared with intraoperative findings. MRI predicted apical prolapse better than PE. Further investigation in evaluation of posterior compartment is warranted.

Source of Funding: None

2044

DIFFUSION TENSOR MAGNETIC RESONANCE TRACTOGRAPHY OF THE PROSTATE: FEASIBILITY FOR NEUROANATOMIC MAPPING

David S. Finley, Benjamin Ellingson, Shyam Natarajan, Taryar Zaw, Steven Raman, Peter Schulam, Robert Reiter, Daniel Margolis, Los Angeles, CA*

INTRODUCTION AND OBJECTIVES: Present knowledge of periprostatic neuroanatomy is based largely on gross dissection of the prostate gland. We evaluated the feasibility of in-vivo diffusion tensor magnetic resonance imaging (DTI) tractography of the prostate to visualize and map periprostatic neurovascular anatomy.

METHODS: Eight men scheduled to undergo robot-assisted radical prostatectomy underwent 3.0Tesla endorectal multiparametric magnetic resonance imaging (MRI) of the prostate with DTI. Tract