Experiences with the MRI-Guided Biopsy of the Prostate Gland as Second Biopsy (Re-Biopsy)

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Introduction

The multimodal high definition (3Tesla-Device) MRI of the prostate it for the diagnosis of prostate cancer of increasing importance. The consequence of the improved imaging is the MRI-guided biopsy, which targets the suspected malignant lesions.

Materials and Methods

- Included in the study: patients with a previous negative TRUS-biopsy and persisting, pathological PSA-levels.
- Position of needle controlled after each biopsy
- Imaging: 3 Tesla Philips Intera with endorectal coil
- Biopsiedevice: Dyna TRIM (Invivo)
- Number of patients: n=148
- Time period: 01.05.2009 – 31.10.2011
- Average age: 65 years
- Average PSA level: 11.5 ng/ml
- Average duration of examination: 45 minutes
- Average number of MRI-biopsies per patient: 3,4
- Interpretation of imaging:
  - minimal indication of malignancy
  - moderate indication of malignancy
  - highly indication of malignancy

Conclusion:

The patients examined with the targeted biopsies required in general fewer punctures in contrast to those examined with the standard random biopsy. Despite this, the detection rate of a carcinoma for the former group was much higher (82 %). To be considered, however, is the fact, that the MRI-guided biopsy is a time consuming, expensive procedure.

In addition, the experience of the radiologist involved has considerable influence on the effectiveness of the procedure.