

Purpose:

Treatment outcomes for prostate cancer are intimately tied to the ability to locate the disease; current standard clinical practice utilizes DRE, PSA, and transrectal ultrasound (TRUS) extended systematic sextant biopsy for staging. Some speculation about enhanced diagnostic techniques such as MRI spectroscopy for triangulating disease has suggested that treating the prostate in its entirety may not be necessary.

Methods:

Stereotactic transperineal prostate biopsy (STPB) provides tissue evidence from all sections of the prostate, and its accurate Gleason scoring ability has been correlated to surgically removed prostate pathology in over 74% of cases (n=85 prostates removed with previous STPB staging). Additionally, STPB was 95% accurate in predicting the location in those patients (81/85). Utilizing the comprehensive sampling of STPB pathological findings, focal therapy of prostate cancer is the next logical step. Seeds are then planned and implanted only in the areas of disease identified on STPB.

Results:

Figure 1 shows sample focal therapy loading in four such patients treated in the last year at Chicago Prostate, (the total prostate is contoured in orange, the yellow contour is the “target as delineated by BJM using STPB outcomes). Focal therapy may then provide a reduction in dose to the surrounding normal tissues (depending on the location within the gland to be treated).

Conclusions:

This treatment is tolerated well by patients and further follow up will continue. Focal therapy also shows promise for local treatment failure when it is most important to restrict dose to critical normal tissues which have already experienced radiation insult. Dose escalation to demonstrated disease sites is the goal of radiation therapy and in the new era of tissue-proven disease location through STPB – focal therapy may further spare the surrounding normal tissues as well.