

AbstractID: 6756 Title: LDR brachytherapy for low risk prostate cancer with I-125 &#8211; a comparison of the results with loose seeds from two different producers

**Purpose:** LDR brachytherapy is a well established treatment method for low risk prostate cancer. Different techniques and radioactive sources are used. In this study I-125 seeds from two different manufactures were compared regarding dosimetric properties and clinical outcome.

**Method:** From 08/2000 to 04/2005 nearly 500 patients have been implanted with I-125 seeds. The first 201 patients were implanted with loose seeds from the first manufacturer the other patients have been implanted with loose seeds from a second manufacturer. Both kinds of seeds have the same geometric dimensions, the same application system and method can be used. To compare the clinical outcome two subgroups of 101 consecutive patients were defined. In all cases the same treatment method was performed always by the same operating team.

In both groups clinical dosimetric parameters (intraoperative and postoperative) were investigated, morbidity of the patients was analyzed. Individual nomograms were calculated to compare physically differences.

**Results:** Dosimetric and clinical data of 202 patients were analyzed. No significant differences could be found in the number of seeds, prostate volume or implanted activity comparing the two subgroups. The intraoperative and postoperative D90 of the prostate was the same in both groups as well as the D30 of the urethra and the V100 of the rectum. Our clinical data show a very low probability of side effects in both groups of patients. Looking to the correlation of implanted activity and intraoperative prostate volume for both groups we found a small difference for prostate size greater than 50cc.

**Conclusion:** LDR brachytherapy with I-125 seeds is a well established treatment method. The quality of the implantation depends on the treatment method and the experience of the operating team. Different kinds of sources with the same isotope do not influence the clinical outcome and the quality of life for the patient significantly.