Re-Implantation after insufficient primary 125-I permanent brachytherapy of prostate cancer

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Objective: We describe three patients that received a re-implantation (RI) after the dosimetry of the primary 125-I permanent prostate brachytherapy revealed to have an insufficient dose coverage.

Materials and Methods: Of 181 patients treated (from 03/01 to 12/08) with 125-I permanent prostate brachytherapy, the dosimetric verification per CT 4-6 weeks after implantation displayed an insufficient dose coverage in four patients. The fourth patient not being considered here due to short follow-up. In three patients a RI with 12, 16 and 19 seeds was performed 97-115 days after the primary intervention. The dosimetry after RI showed a sufficient total dose coverage.

Results: The latest follow-up of these three patients at 12, 42 and 56 months respectively revealed no complications. The PSA levels post intervention showed a decreasing tendency falling from 6.5 to 0.36, 2.6 to 0.68 and 4.6 to 0.29(ug/l) within the abovementioned follow up period.

Conclusion: Our data have shown that approx. 2% of patients treated with permanent prostate brachytherapy required a RI due to insufficient dose coverage. None of the patients who underwent RI experienced complications or a relapse up to this day. There are only few published reports on re-implantation and long term data is still missing. Our series, along with other published reports, demonstrates good tolerability and excellent middle-term results.

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