

Influence of patient selection on outcome in prostate cancer brachytherapy. The experience of the Paris Institut Curie/ Hôpital Cochin / Hôpital Necker group on 809 patients

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Aim of the study ;

To analyze the outcome of 809 patients with prostate cancer treated by permanent implant brachytherapy, according to whether their selection exactly complied or not with the ABS (American Brachytherapy Society) recommendations.

Material and methods;

From July 1999, to September 2004, 809 patients underwent prostate brachytherapy using the real-time implantation procedure with 125I free seeds (Isoseed Bebig). Of these, 542 (67%) fulfilled all ABS selection criteria i.e. T1c-T2a, PSA< or = 10, Gleason < or = 6). The remaining 267 (33%) did not because of either a PSA between 10 and 15, *or* a Gleason 7 (3+4). This modification in the selection was based on a 1999 consensus by the French Society of Radiotherapy (SFRO) and the French Urology Association (AFU). All patients had undergone endorectal coil RMI.

On the dosimetric CT-scan performed 2 months after brachytherapy, mean D90 was 182Gy (range 115-240 Gy), and mean V100 was 97.46 % (range 84.10-100 %), with no difference between the patients exactly complying or not with all the ABS criteria . Neo-adjuvant hormone-therapy was more frequently used in patients not complying with all the ABS criteria (69.2 % versus 52.6 % , p <0.00001).

Results ;

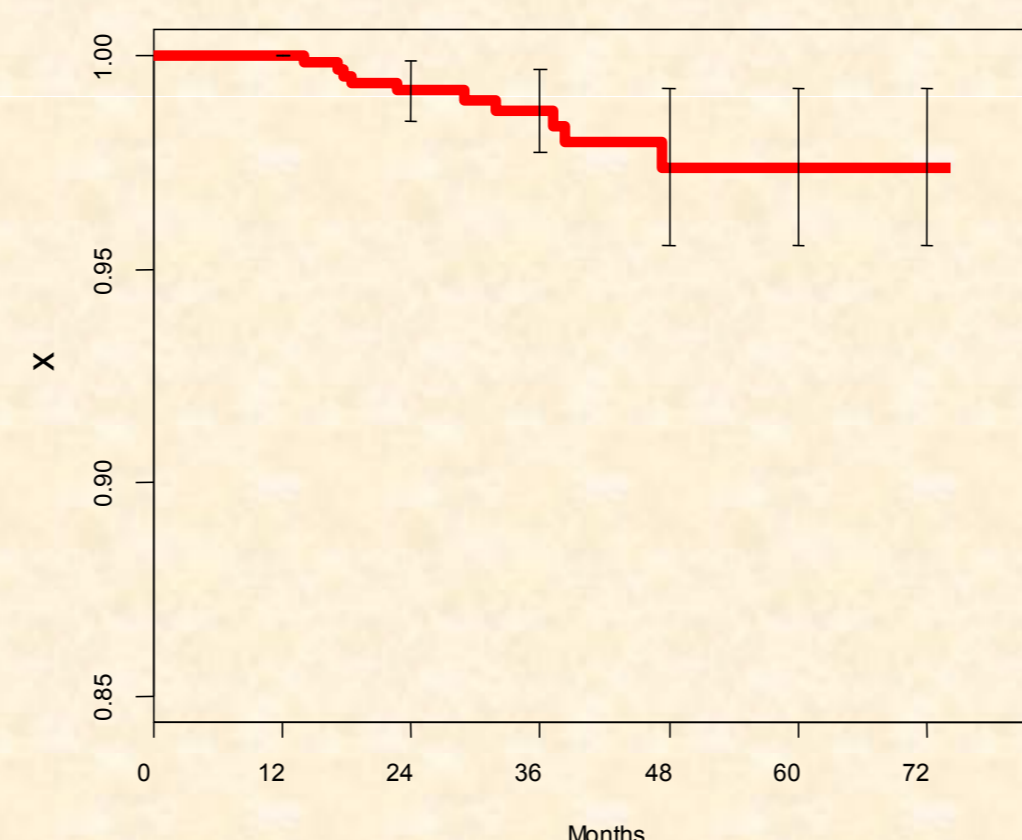
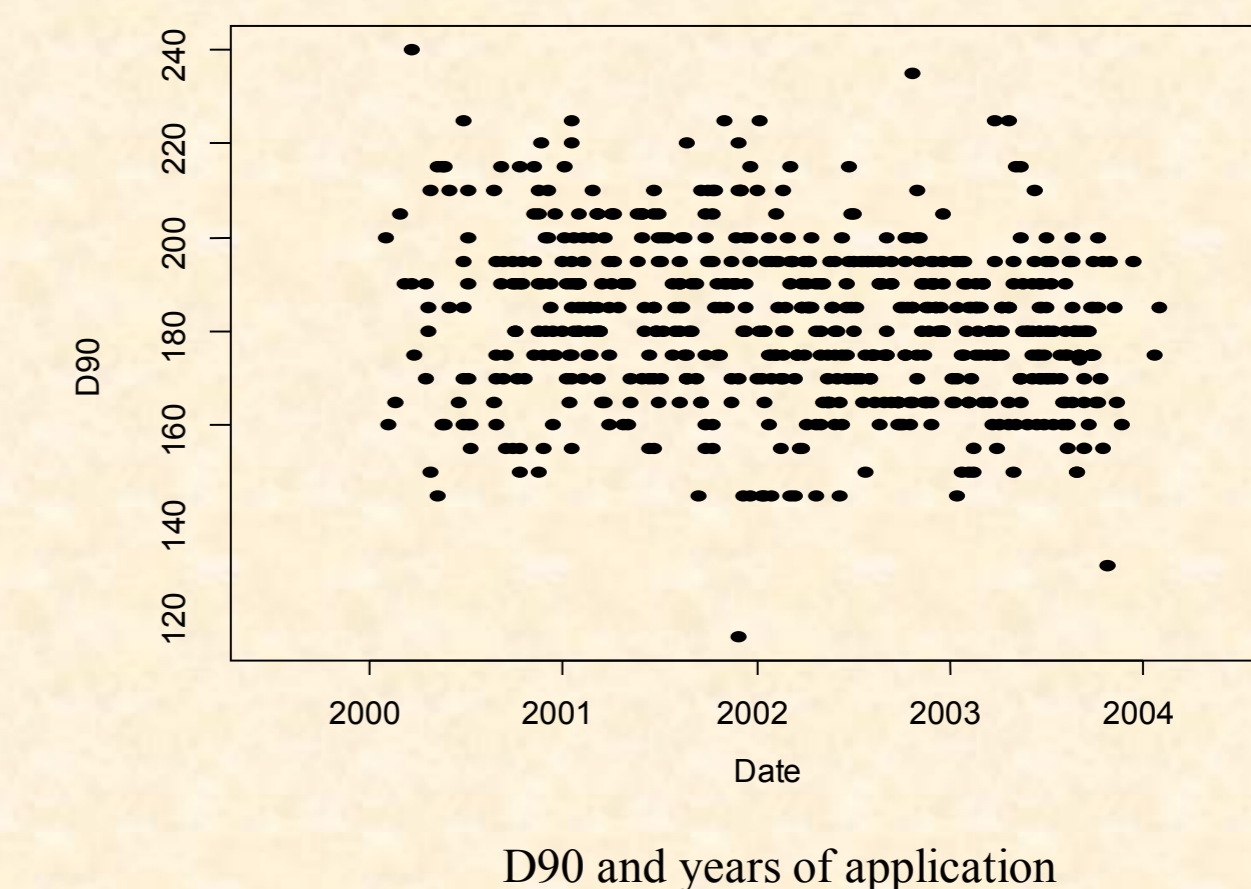
Overall, 4-year survival rate was 97.4 % (no prostate cancer specific death) and 4-year disease-free survival (DFS) was 94.2%. DFS was 94.7% for patients complying with all the ABS criteria and 93.1% for those who did not (no statistical difference; p = 0.33).

Conclusions ;

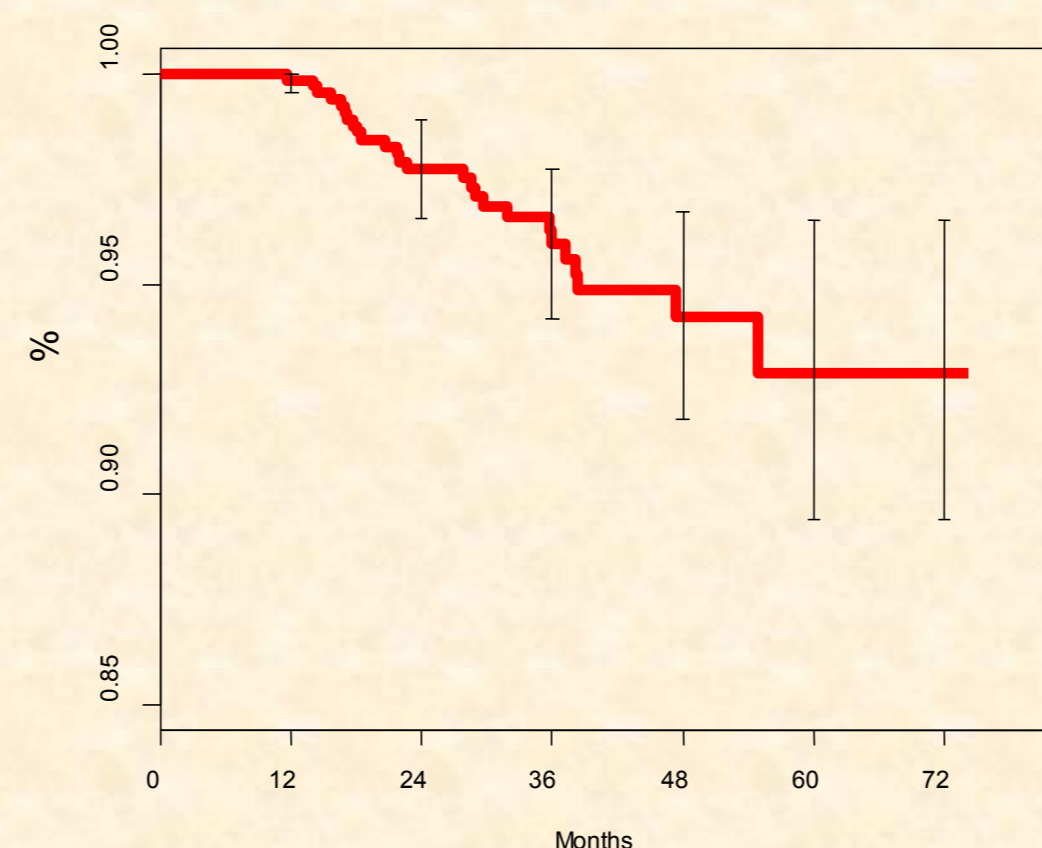
In patients not fulfilling all ABS criteria because of either a PSA between 10 and 15 or a Gleason score of 7 (restricted to 3+4), permanent implant prostate brachytherapy appears to achieve similar DFS results to those obtained in patients complying with all ABS criteria.

Attention must be drawn to the strict selection of our patients (with a normal endorectal coil RMI in all cases). The more frequent use of hormone-therapy in patients not fulfilling all ABS criteria could have compensated for a possible lesser efficacy of brachytherapy.

Characteristics of the 809 patients		
N=809		%
Stade	1c-2a	98,7
	2b	1,3
PSA	<10	80,7
	>10 and <15	19,3
Gleason Score	<7	83,7
	7	16,3
Low risk	yes	67
	no	33
Hormonal treatment	yes	57
	no	43
D90	<140	0,07
	140-190	83
	>190	27
V100	<95%	10,5



Overall survival



DFS

