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URODYNAMIC CHANGES FOLLOWING SALVAGE RADIOTHERAPY FOR RECURRENT PROSTATE CANCER AFTER RADICAL PROSTATECTOMY

HYPOTHESIS / AIMS OF STUDY

Salvage radiotherapy is one of the choice treatments for recurrent prostate cancer after radical prostatectomy. Evidences of urodynamic changes following prostatectomy and radiotherapy treatment for prostate have been found. Nevertheless, changes in salvage radiotherapy after prostatectomy have not been established.

The aim of our study is to evaluate these changes after sequential treatment.

STUDY DESIGN, MATERIALS AND METHODS

All patients underwent radical prostatectomy. Salvage radiation therapy after radical prostatectomy was indicated with two repeated determinations PSA >0.4 ng/mL and PSA doubling time >9 months. **Initial assessment** was carried out prior to radiotherapy according to clinical history, validated questionnaires (International Consultation on Incontinence Questionnaire-Short Form -ICIQ-UI SF- and International Prostate Symptom Score/quality of life –IPSS/QL-) and urodynamic study (informed consent) following ICS recommendations. All patients received a total dose of 70 Gy to the prostatic bed. At 18-24 months, a **control assessment** was done (clinical history, validated questionnaires and urodynamic study).

RESULTS

From May 2005 until August 2011, 45 patients were included. Among which, 25 have completed the functional assessment, making them the preliminary work group. One patient refused to give consent for the urodynamic study and one had urinary infection after the study.

Clinical outcome

No significant differences were found in the questionnaires IPSS/QL, ICIQ-UI SF or in the severity of incontinence (pads/day).

Urodynamic study

Filling cystometry results were normal in 14 of the 24 patients initially evaluated and in 7 of the 24 control studies (p=0.03).
Bladder outlet obstruction was observed in one of the initial 24 studies and in 7 of the control studies (p=0.03).

Urodynamic parameters

Parameter	Pre-radiotherapy	Post-radiotherapy	p
Maximum flow rate (ml/s)	21	16	0.241
Voided volume (ml)	314	226	0.017
Post-void residual volume (ml)	23	41	0.592
First sensation of bladder filling(ml)	142	132	0.976
Involuntary detrusor contractions (first volume) (ml)	124	124	1
Involuntary detrusor contractions (maximum pressure) (cmH20)	82	57	0.109
Maximum cystometric capacity (ml)	312	271	0.181
Bladder compliance (ml/cmH20)	38	53	0.733
Abrams-Griffiths number	1.6	5.7	0.820

INTERPRETATION OF RESULTS

The use of pelvic radiotherapy for treatment of biochemical recurrence is progressively increasing. There are few studies published that evaluate the impact of prostate radiotherapy on urodynamic study. Currently there are no studies that evaluate the impact of radiotherapy in patients who have been undergoing radical prostatectomy. It is very important to know the side effects of this technique in patients with prostatectomy to assess the risk-benefit of the biochemical recurrence treatments.

CONCLUDING MESSAGE

No significant clinical changes after salvage radiotherapy has been observed. However, urodynamic studies show significant changes in the diagnosis. Nevertheless, these changes cannot be translated into quantitative urodynamic parameters. These preliminary data must be corroborated with more patients inclusion. This would allow us to evaluate the correlation between other factors (postoperative evolution, lapse between surgery and radiotherapy, etc…) as well as the functional changes observed.

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