

Oncological follow-up after radical prostatectomy

Dragoş Marcu¹, Dan Spînu², Dan Mischianu^{1,2}, Bogdan Socea^{3,4}, Ioana Oprea⁵, Ovidiu Bratu^{1,2}

Abstract: *Radical prostatectomy is the gold standard treatment for patients with localized prostatic cancer, but often the pathological diagnosis reveals a locally advanced stage.*

The aim of this paper is to present the oncological follow-up after radical prostatectomy on a group of 42 patients, patients which have been diagnosed after surgery with a more aggressive stage, locally advanced PCa. Over a period of four years 136 patients have undergone radical prostatectomy. The pathological examination has established that 42 patients presented extracapsular invasion and/or lymph node invasion. 18 patients (pT3-4N0M0) have undergone radiotherapy alone and 24 patients (8 pN1 and 16 pT3-4N1M0) have received androgen deprivation therapy in association with radiotherapy. Over the next two years 15 patients presented biochemical recurrence. For these patients chemotherapy was initiated, but in two cases PSA increase has been observed during periodic evaluation. Although it is not uncommon that postoperatively the histopathological examination establishes a more aggressive disease stage than that established before surgery, radical prostatectomy remains the solution for the localized prostate cancer, solution that can be boosted by radiotherapy and/or androgen deprivation therapy.

Keywords: *prostate cancer, oncological follow-up, complications*

INTRODUCTION

Prostate cancer is one of the most frequent, if not the most frequent neoplastic pathology encountered in men with ages over 60 years, its incidence increasing with age. The steady growth of life expectancy, due to a healthier life-style that more and more people tend to adopt, will automatically lead in the following decades to a higher rate of prostate cancer detection [1-3].

Since its introduction, more than 20 years ago, prostate specific antigen (PSA) screening has significantly increased the number of patients diagnosed with localized prostate cancer.

The discovery of this marker at the beginning of the 1970s by Dr. Ablin and his colleagues has radically changed, in a good manner, the prognostic and the lives of the patients who suffer from this disease, but

it took almost two decades to approve its use as a screening marker.

Before the FDA approval and introduction of the PSA as a tool to evaluate the treatment response and disease recurrence in 1986 and later in 1994 as a screening test for prostate cancer, the patients were usually diagnosed in advanced stages, with metastatic disease, associating a poor prognostic, less than 5% of the patients being curable [4].

Currently, due to early detection of prostate cancer,

¹ Clinic of Urology, „Dr. Carol Davila” University Emergency Central Military Hospital, Bucharest

² University of Medicine and Pharmacy, Clinical Department 3, Bucharest

³ Clinic of General Surgery, Saint Pantelimon Hospital, Bucharest

⁴ University of Medicine and Pharmacy, Clinical Department 10, Bucharest

⁵ Intensive Care Unit, „Dr. Carol Davila” University Emergency Central Military Hospital, Bucharest

the curability rate of this pathology has significantly improved, the patients being diagnosed more frequently with lower disease stages, thanks to PSA screening. Radical prostatectomy among other therapeutical options (radiotherapy, brachytherapy) offers good disease control and even good cure rates, with low rates of local recurrence.

Radical prostatectomy is the most frequent therapeutical option used in the management of patients diagnosed with localized prostate cancer and with a life expectancy that is estimated to be higher than 10 years, being considered the gold standard treatment for this stage of disease [5]. Often, despite the fact that the preoperative evaluation establishes a localized stage, the postoperative pathological examination reveals a more advanced stage of prostate cancer.

The purpose of this article is to present the oncological follow-up in a group of patients diagnosed after radical prostatectomy with a locally advanced prostate cancer stage, after initially establishing a localized stage during the preoperative evaluation.

MATERIAL AND METHODS

We have retrospectively analyzed the experience of our clinic regarding open radical prostatectomy for localized prostate cancer and we have encountered that over a period of four years, from January 2013 to January 2016, we have performed 136 radical prostatectomies. Only the patients diagnosed during the preoperative evaluation with localized prostate cancer have been included in this study.

We have analyzed the PSA value, the result of the pathological examination after prostatic biopsy, pre- and postoperative staging and Gleason score and as well as the short and long term oncological results and complications.

The preoperative diagnostic of prostate cancer was established by transrectal ultrasound prostate biopsy, this procedure being done in patients who presented repeated PSA values above the upper limit of the PSA reference interval or for the patients who presented a clinical suspicion of prostate cancer during digital rectal examination. After the pathological examination

confirmed the cancer diagnostic all the patients have undergone pelvic contrast MRI and bone scan.

The prostatectomy was performed 6 to 8 weeks after the transrectal biopsy and 12 weeks after transurethral prostatic resection (TUR-P), for the patients diagnosed with prostate cancer after the pathological examination.

The postoperative evaluation was done at one month after the surgery and afterwards periodically at three months in order to evaluate the PSA level, the urinary continence status and erectile function. Biochemical recurrence was defined as two consecutive increases of the PSA level over 0.2 ng/mL.

RESULTS

The mean age of the patients included in the study was 63.09 years, varying between 51 and 78 years. The number of the prostatic tissue fragments harvested during prostatic biopsy puncture ranged between 6 and 12, being higher in saturation biopsy (24 to 32 fragments).

The mean operative time was 130 minutes, ranging between 100 and 300 minutes. Intraoperative bleeding has decreased over time, due to increased surgical experience, from 1500mL (in the first prostatectomies) to less than 200 mL in more recent surgeries. No major complications have occurred during the procedure.

As early postoperative complications we report macroscopic hematuria in less than 10% of the cases, wound infection (4%), prolonged lymphatic drainage in 8% of the cases and anastomotic fistula in 3 patients. Regarding the late postoperative complications (one year after the surgery) we have encountered: urinary incontinence, erectile dysfunction and lower urinary tract symptoms (LUTS).

The degree of urinary incontinence was evaluated periodically at one month after the surgery and afterwards at 3, 6 and 12 months using the International Continence Society male questionnaire. The degree of urinary continence was established by the number of urinary pads used during 24 hours. Out of 136 patients who have undergone radical prostatectomy only 3 patients presented total urinary

incontinence, during the postoperative follow-up, 38 patients being partially continent and 95 patients being completely continent. Complete urinary continence was defined as the absence of the need for urinary pads during 24 hours and as well as the absence of urinary leakage during daily activities.

Erectile function was evaluated using the IIEF- 5 questionnaire. It was noticed that 78% of the patients for whom we have practiced bilateral nerve sparing surgery and 30% of the patients with unilateral nerve sparing presented satisfactory erections. For the patients with erectile dysfunction we have recommended phosphodiesterase 5 inhibitors.

9% of the patients presented moderate or severe LUTS, due to urethral stricture or due to bladder neck sclerosis. These postoperative complications were managed endoscopically.

42 patients presented after the pathological examination extracapsular invasion and/ or lymph node invasion. Therefore these patients presented in fact locally advanced prostate cancer and not the localized stage that was established during the preoperative evaluation. 18 patients out of 42 with extracapsular invasion (pT3-4N0M0) have undergone radiotherapy alone and 24 patients with lymph node invasion (8 patients with pN1 and 16 patients with both extracapsular and lymph node invasion) have undergone radiotherapy and androgen deprivation therapy (complete androgen blockade for two years).

15 patients presented successive increases of the PSA value at more than 2 years after treatment initiation, cases for which chemotherapy was recommended. 2 patients presented castration-resistance prostate cancer. Their therapeutical management consisted in bilateral orchiectomy and anti-androgen therapy. Two patients out 15 were resistant to the chemotherapy.

DISCUSSIONS

PSA detection has proven over the years to be a vital, cheap and reliable investigation for the detection of prostate cancer. Early PSA screening has led to a significant increase of the rate of patients diagnosed with localized prostate cancer, nowadays approximately 90% of this patients being curable [6].

Several studies have compared over the years the efficacy of radical prostatectomy and radiotherapy in patients with localized prostate cancer and have concluded that both therapeutical options provide good results regarding the recurrence free survival, cancer specific survival, overall survival and biochemical recurrence, especially for the low risk and intermediate risk patients [7-10]. In a study comparing the efficacy of radical prostatectomy versus intensity-modulated radiotherapy, Aizer concluded that for the high risk patients the radiotherapy approach provided better results when compared to the radical prostatectomy group. No significant differences were found between these two types of treatment for the low risk and intermediate risk patients [11].

Schreiber et al reported a better biochemical control for the patients with high risk localized prostate cancer for whom radiotherapy was the treatment of choice when compared to the radical prostatectomy group after a follow-up period of 6 years (67.4% RT vs 41.3% RRP). Regarding the low and intermediate risk groups he reported no significant differences between radiotherapy and radical prostatectomy, despite the fact that in both risk groups radiotherapy presented initially better results. The rates of biochemical control after 6 years for low risk and intermediate risk were 90.3% and 82.6% without any salvage therapy, while for the radical prostatectomy group the rates were 85.6% and 59.7% without salvage radiotherapy and 90.3% and 74% with salvage radiotherapy [7]. Petrelli reported in a 2015 meta-analysis, a better overall and cancer specific survival in high risk patients treated with radical prostatectomy when compared to radiotherapy [12].

In a 2015 study regarding the comparative outcomes between radical retropubic prostatectomy, high dose rate brachytherapy (HDRBT), cryoablation and high-intensity focused ultrasound (HIFU) for localized prostate cancer it was concluded that HDRBT presented the worst outcomes (cancer control, biochemical recurrence, salvage treatment free rate and metastases free rate) when compared to the alternatives [13].

CONCLUSIONS

Radical retropubic prostatectomy is the gold standard in the treatment of localized prostate cancer and in some cases, in the locally advanced prostate cancer.

Radical prostatectomy provides a significant improvement of the survival rate, for the cases where the surgical indication and technique have been correctly established and carried out.

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