OBJECTIVE: to present relatively uncommon surgical procedure for the treatment of localized prostate cancer

MATERIAL AND METHODS: Six patients with localized prostate cancer (PCa) underwent perineal radical prostatectomy (PRP) from 2006 to 2010. The average age was 65.2 years. The average preoperative PSA was 7.8±1.3 ng/ml. Two patients had pT2b stage, while four had pT2c stage. Gleason score ranged from 4-7.

RESULTS: All patients had negative surgical margins. Average operative time was 109±20 minutes and average blood loss was 525±180 ml. The urethral catheter was removed after 12 days in all patients except one, who required prolonged catheterization due to urinary fistula. All patients were continent after three months. Average postoperative PSA was 0.07±0.03 ng/ml.

CONCLUSION: Perineal radical prostatectomy is valuable surgical procedure that provides good oncological results as well as urinary and sexual function.

Key words: prostate cancer, perineal prostatectomy, radical prostatectomy

INTRODUCTION

Radical perineal prostatectomy is surgical procedure for the removal of organ-confined prostate cancer (stages T1 and T2), through the perineal incision. Indications for PRP are the same as for other surgical procedures for localized prostate cancer: the patients with T1b-T2c tumors and life expectancy over 10 years. The advantages of PRP over radical retropubic prostatectomy (RRP) are that it is less invasive and requires less operative time. Compared to laparoscopic prostatectomy (LAP), PRP requires less highly sophisticated and expensive equipment and shorter learning curve. Moreover, the specific candidates for PRP are obese patients, patients after pelvic or abdominal surgery (e.g. mesh- hernia repair, renal transplantation, vascular graft surgery) or irradiation.

HISTORY

Theodor Billroth was first to describe the perineal prostatectomy for the treatment of prostate cancer, in 1867, but Goodfellow introduced it to the profession in 1891, before transvesical or suprapubic operations of Fuller and Freyer. According to Young, the first radical perineal prostatectomy for prostate cancer was done in Johns Hopkins Hospital on April 7, 1904, by him with the assistance of his chief, Dr. William S. Halsted. In 1910 Young published his results of 128 perineal prostatectomies without a single fatal result. In 1947, Millin described retropubic approach for radical prostatectomy and PRP gradually lost its significance. However, both procedures had significant morbidity and three major complications: rectal injury, ureteral injury and massive hemorrhage, as well as anastomotic leaks, wound infections, and incontinence. Virtually all men were impotent.

Since the late 1970s, with the introduction of the radical retropubic prostatectomy RRP has not been performed as commonly. Today, with increased importance on reducing morbidity associated with RP by less-invasive techniques, however, more surgeons are revisiting RPP.

The interest of PRP is increasing as the preservation of cavernosal nerve bundles and sphincteric urethra provides spontaneous erections in more than 97% patients. Moreover, PRP is a cost-efficient, outcome effective minimally invasive procedure followed by significantly lower Intraoperative blood loss, compared to RRP. In addition, PRP is followed with shorter intraoperative stay and urethral catheterization.

Novel techniques include various improvements, like the combination of endoscopic resection of the bladder neck and various procedures that improve the exposure of the prostate.
Finally, pelvic lymphadenectomy is routinely performed in the new techniques, through the same perineal incision.

**OPERATIVE TECHNIQUE**

The patient is in lithotomy position. Special "Lowsley" retractor is inserted into the bladder. Semilunar incision is made in the perineum, with the apex 2-3 cm anterior to anus. (Figure 1)

After the mobilization of the rectum, rectourethralis muscle is divided. (Figure 2).

After the placement of the perineal retractor, the space at the base of the prostate is developed.

**MATERIAL AND METHODS**

Six patients with localized prostate cancer (PCa) underwent perineal radical prostatectomy (PRP) from 2006 to 2010 in the Health Center Bezanijska Kosa, Department of Urology, Belgrade, Serbia. The average age was $65 \pm 5.2$ years. The average preoperative PSA was $7.8 \pm 1.3$ ng/ml. Two patients had pT2b stage, while four had pT2c stage. Gleason score ranged from 4-7.

**RESULTS**

All patients had negative surgical margins. Average operative time was $109 \pm 20$ minutes and average blood loss was $525 \pm 180$ ml. The urethral catheter was removed after 12 days in all patients except one, who required prolonged catheterization due to urinary fistula. All patients were continent after three months. Average postoperative PSA was $0.07 \pm 0.03$ ng/ml. One patient had urinary fistula on urethrovesical anastomosis that closed spontaneously after prolonged catheterization.

**CONCLUSION**

Radical perineal prostatectomy is an old surgical procedure, but almost abandoned in favor of retropubic prostatectomy. However, in present time PRP shows few significant advantages over other procedures: it is less invasive than RRP and provides comparable oncological outcome and better functional results. Compared to laparoscopic procedures, PRP is equally effective, but requires shorter learning curve and significantly less expensive equipment.

**SUMMARY**

Cilj rada: da se predstavi jedna relativno retka hirurška procedura u lečenju lokalizovanog karcinoma prostate. Materijal i metode: U periodu od 2006 do 2010 godine, kod šest bolesnika je radjena perinealna radikalna prostatektomija (PRP). Prosečna starost bolesnika je bila $65 \pm 5.2$ godina. Prosečna vrednost preoperativnog PSA je iznosila $7.8 \pm 1.3$ ng/ml. Kod dva bolesnika je nadjen stadijum pT2b, a kod četiri, pT2c. Glisonov skor (GS) je iznosio od 4 do 7.

Rezultati: Svi bolesnici su imali negativne hirurške margin. Prosečno operativno vreme je iznosilo $109 \pm 20$ minuta, a prostetski gubitak krvi $525 \pm 180$ ml. Uretralni kateter je vadjen posle 12 dana, osim kod jednog bolesnika kod koga se razvila urinarna fistula i koji je nosio kateter 36 dana. Posle tri meseca, svi bolesnici su bili kontinentalni. Prosečni postoperativni PSA je iznosio $0.07 \pm 0.03$ ng/ml. Zaključak: Perinealna radikalna prostatektomija je važna hirurška procedura, koja obezbeđuje dobre onkološke rezultate i očuvanje urinarne i genitalne funkcije. Ključne reči: karcinom prostate, perineal prostatektomija, radikalna prostatektomija.
REFERENCES


