

Maciej Kisiel¹, Dariusz Kacik², Małgorzata Konon-Kisiel³

¹Department of Urology, Provincial Specialist Hospital in Biała Podlaska
Head of Department :Henryk Konon, MD, PhD, Consultant Urological Surgeon

²Department of Anesthesiology, Provincial Specialist Hospital in Biała Podlaska
Head of Department : Jerzy Paluszkiewicz, MD

³Pope John Paul II State School of Higher Vocational Education in Biała Podlaska

Long-term results of the incision and resection of the bladder neck with bladder outlet obstruction based on the own material.

Odległe wyniki nacięcia i resekcji szyi pęcherza moczowego z powodu przeszkody podpęcherzowej w materiale własnym

Summary

Sclerosis of the bladder neck in many cases leads to a substantial obstacle to the emptying of the bladder. Treatments for disease are TUI-BN and TUR-BN.

Aim of this study is to compare the late results of both methods.

Retrospective analysis of 64 patients. In 38 patients, bladder neck incision was used. In 26 patients, respectively, resection of the bladder neck.

UD study analyzed after 3 and 6 months after surgery.

After 3 and 6 months in both groups reported a statistically significant increase in Q max (an average of 8ml/s and 8.5 ml / s, and 6, 5 and 8 ml / s)

After 3 and 6 months in both groups reported a small percentage of patients with BOO (16%, 15% and 16%, 19%). There was no statistically significant differences between the results of the treatment methods investigated. Transurethral incision of the neck Bladder (TUI-BN) seems to be a treatment of choice for BOO at the bladder neck.

Key words: bladder neck, sclerosis, incision,

Streszczenie

Stwardnienie szyi pęcherza w wielu przypadkach prowadzi do strukturalnej przeszkody podpęcherzowej w odpływie moczu. Leczenie zabiegowe prowadzi się poprzez TUI-BN oraz TUR-BN. Celem pracy jest porównanie wyników odległych zastosowania obydwu metod.

Retrospektywna analiza 64 pacjentów. U 38 pacjentów zastosowano nacięcie szyi pęcherza, u 26 pacjentów resekcję szyi pęcherza moczowego. Badanie urodynamiczne wykonywano po 3 i 6 miesiącach od zabiegu. Po 3 i 6 miesiącach w obu grupach zanotowano statystycznie istotny wzrost Q max (odpowiednio z 8 ml/s do 8,5 ml/s i z 6,5 ml/s do 8 ml/s). Po 3 i 6 miesiącach w obu grupach zanotowano mały procent pacjentów z BOO (odpowiednio 16%, 15% i 16% i 19%). Nie stwierdzono istotnych statystycznie różnic w analizowanych wynikach pomiędzy dwoma grupami pacjentów. Przewodkowe nacięcie szyi pęcherza moczowego (TUI-BN) jako mniej inwazyjna wydaje się być metodą z wyboru w leczeniu przeszkody podpęcherzowej na poziomie szyi pęcherza u mężczyzn.

Słowa kluczowe: szyja pęcherza, stwardnienie szyi pęcherza, nacięcie.

Introduction.

Sclerosis, hypertrophy, bladder neck dysfunction are the modifications leading to incomplete opening of the urethra. Congenital bladder neck sclerosis (Marion's disease) is very rare. Acquired dysfunction of the bladder neck is due mostly to the development of scar tissue in the bladder neck due to chronic inflammatory processes taking place within the prostate and posterior part of the urethra and the surgical scar following open prostatectomy and transurethral resection of the prostate (TURP). (Sataa et al, 2009)

In the acquired bladder neck sclerosis dysuria, frequency, dribbling are dominating symptoms usually. Those symptoms are usually seen as an involuntary wetting, urinary urgency or recurrent urinary tract infection.

Sclerosis of the bladder neck in many cases leads to a substantial obstruction in emptying of the bladder. Some confirmation of the existence of bladder outlet obstruction (BOO) gives us a voiding cystometry. (Gidian-Joppe, 2008)

However, without videourodynamic investigation it is not possible to assess accurately the level of bladder outlet obstruction. In the absence of this option we must have recourse to additional findings as voiding cystography or cystoscopy. (Jocius KK et al, 2002)



Fig. 1 Normal bladder neck. Cystoscopic view



Fig. 2 Primary bladder neck hypertrophy. Cystoscopic view.

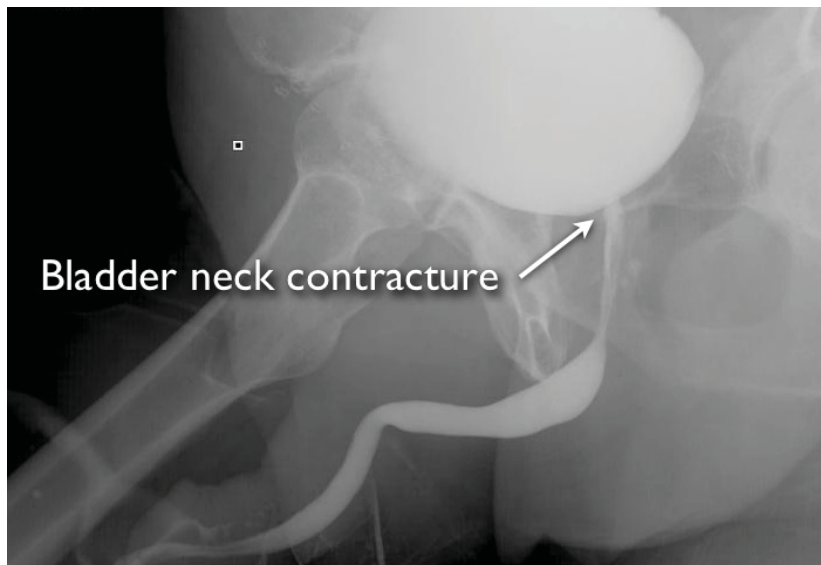


Fig.3. Bladder neck contracture in cystography.

Materials and methods.

The aim of the study is the comparison of the effectiveness of transurethral bladder neck incision (TUI-BN) and resection (TUR-BN) in the eradication of bladder outlet obstruction at the level of the bladder neck.

Sixty four patients who underwent transurethral incision (TUI-BN) or bladder neck resection (TUR-BN) in the years 2002 to 2009 were retrospectively analyzed in the Department of Urology WSS in Biała Podlaska. In 38 cases bladder neck incision were performed; 26 patients, respectively, had bladder neck resection

The patients were classified to the study based on urodynamic investigations and cystoscopy, which identified the presence of bladder outlet obstruction (BOO) . All patients did not respond to the pharmacological treatment.

All patients over 40 had their PSA levels determined before treatment. All of them underwent DRE and TAUS in order to exclude the obstruction directly related to the prostate adenoma.

The urodynamic study was performed at 3 and 6 months after surgery.

Tab. 1. Clinical material

	Transurethral incision of the bladder neck TUI-BN	Transurethral resection of the bladder neck TUR-BN
Number of patients	38	26
Age in years	27-55 mediana 34	22-61 mediana 38
Number of surgeons	3	3
Prostate volume (ml)	18-32 mediana 23	19-31 mediana 27
Qmax (ml/s)	6,5-10 mediana 8	4,2-11 mediana 6

TUI-BN was performed using electroresectoscope Ch No. 26 with Collings' cutting electrode. The line of cutting was carried out from the ureters orifices to the verumontanum at 5 and 7 o'clock.

TUR-BN was performed using electroresectoscope Ch No. 26 with the cutting loop electrode.

The resection range was selected based on subjective assessment of the operator.

The catheters were removed on the first day after surgery.

The patients were qualified to review by the urodynamic investigation after 3 months since operations with including criteria of negative results of urine culture.

Q max fluctuations were evaluated and the presence / absence of bladder outlet obstruction assessment in the pQ-plot ICS test.

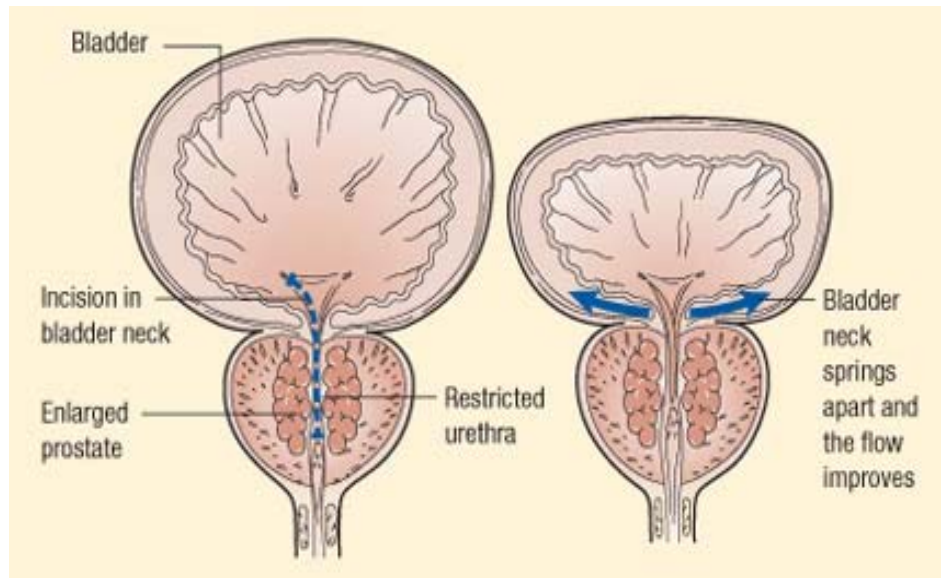


Fig.4 The scheme of incision of bladder neck.

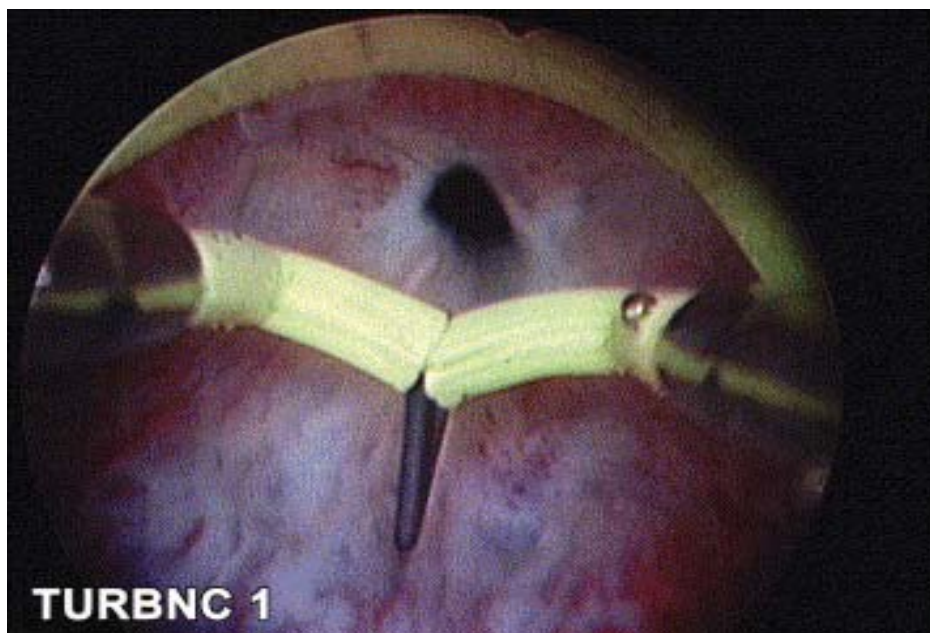


Fig.5. Collings' cutting electrode. Cystoscopic view.

Results

Three months-long assessment:

There was a statistically significant increase in Qmax in both groups of the patients.

Regarding TUI-BN group there was a Qmax increase observed from average of 8 ml / s to an average of 16 ml / s.

Regarding TUR-BN group there was a Qmax increase observed from average of 6 ml/ s to an average of 14, 5 ml / s

In the TUI-BN group urodynamic presence of BOO after 3 months of observation were found in 6 cases (16%).

In the TUR-BN group urodynamic presence of BOO after 3 months of observation were found in 4 cases (15%)

Six months-long assessment:

There was a statistically significant increase in Qmax in both groups of the patients.

TUI-BN group of the patients has averaged Qmax 14.5 ml / s.

TUR-BN group of the patients has averaged Qmax 14 ml / s.

In the TUI-BN group urodynamic presence of BOO after 6 months of observation were found in 6 cases (16%).

In the TUR-BN group urodynamic presence of BOO after 3 months of observation were found in 5 cases (19%).

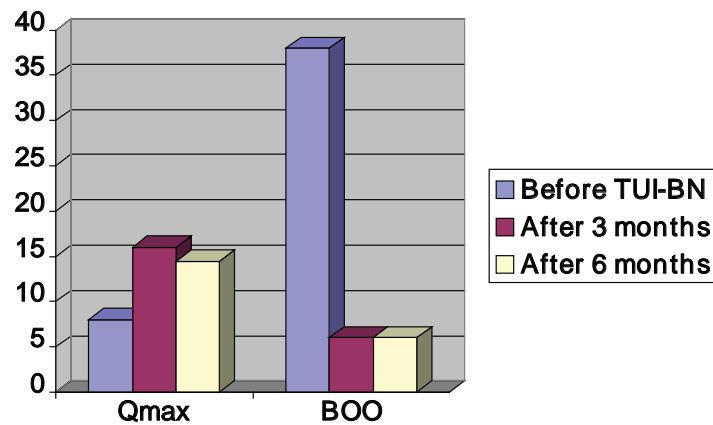


Fig. 6. Investigated urodynamic parameters in patients treated with TUI-BN

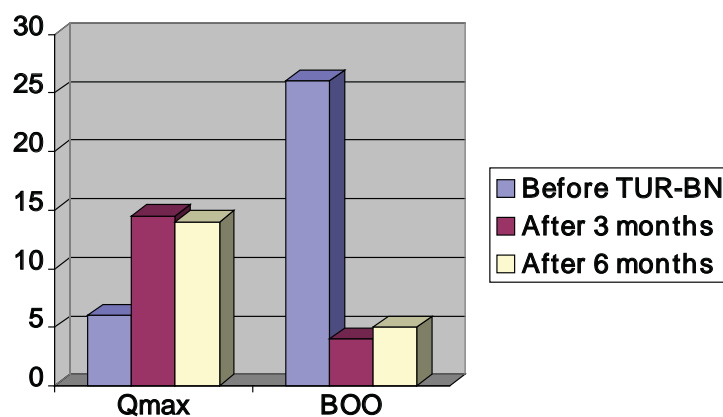


Fig.7. Investigated urodynamic parameters in patients treated with TUR-BN

Table 2. Comparison of urodynamics investigation group of patients treated with TUI-BN and TUR-BN after 3 months.

	TUI-BN	TUR-BN	significant statistical difference
Average Q max increase	8 ml / s	8.5 ml / s	no
BOO presence	16.00%	15.00 %	no

Table 3. Comparison of urodynamics investigation group of patients treated with TUI-BN and BN-TUR after 6 months.

	TUI-BN	TUR-BN	significant statistical difference
Average Q max increase	6.5 mL / s	8 ml / s	$p \approx 0.05$
BOO presence	16.00%	19.00%	$p \approx 0.05$

Discussion

Orandi distinguished four types of configurations of the neck and prostatic urethra, depending on the size of the prostate. With a prostate' weight up to 10 grams, the neck of the bladder is round and there are no signs of the parietal lobes of the prostate (type I P). As prostate growths the curtains symptom appearances (types II, III and IV) (. Orandi, 1987)

The most popular way to cut the bladder neck among the urologists is 5 and 5 o'clock cut from ureteric orifices to veromontanum and relatively deep into the surgical capsule of the prostate.

Although bilateral incision carries a high risk of reverse ejaculation, which, taking into account the relatively low age of the operated patients is quite unfavorable, but the quality of life including sexual life of patients after surgery is much higher than before. (Lourenco T et al., 2010)

The Incision of the neck at 12 o'clock proposed by Aboulker minimizes the risk of early ejaculation, but is not as effective considering BOO definitive treatment. (Aboulker P et al., 1964)

Conclusions

There were no statistically significant differences found in the results of treatment of bladder outlet obstruction between the TUI-BN and TUR-BN.

Transurethral bladder neck incision (TUI-BN) as a less invasive surgery treatment seems to be the method of choice.

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