

# Long-term postoperative results of the hautmann ileal orthotopic neobladder reconstruction after radical cystoprostatectomy of bladder cancer

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Urinary bladder cancer is one of the most serious diseases of the urogenital system, and its treatment is dependent on the time of the diagnosis. pT1 and pT2 are the most suitable clinical and pathohistological stages for the successful surgical treatment of bladder cancer. Such cases are almost entirely treatable and result in the improvement of quality of life and longevity. For good outcomes, it is imperative that the disease be diagnosed as soon as possible, so that radical cystoprostatectomy and a orthotopic Hautmann neobladder reconstructions could be performed.

An overall analysis of the cases was performed at the Urology Clinic of the University Clinical Center in Prishtina. All surgical cases of orthotopic Hautmann neobladder reconstructions were collected in a nonrandomized fashion. Furthermore, complete review of long-term effects, the overall state of all the surgical cases, as well as the survival outcomes of this patient cohort, was performed.

The surgical treatment of bladder cancer patients with orthotopic Hautmann neobladder reconstruction at the Urology Clinic of the University Clinical Center in Prishtina first begun in 1990. The first patient was A.K. Born in 1926. Postoperatively, no surgical complications were noted, the patient lived in good health with a good quality of life. The patient expired in September of 2015 from old age. In the same year, 1990, another patient was treated with the same method, but unfortunately had expired within 24 hours of the surgery because of anesthesia complications. There was a 9-year hiatus because of the political situation of the '90s in Kosovo. The work resumed in 1999. 25 cases of radical cystoprostatectomy followed by orthotopic Hautmann neobladder reconstructions were performed until 2005. The postoperative state of these patients was closely followed.

A complete analysis of the survival rates, especially of cases treated at stages pT1 and pT2, the successful post-op longevity, as well as the longevity of the most challenging and advanced cases treated with this method, are presented. Overall, patients were mostly continent, and urinated regularly and spontaneously.

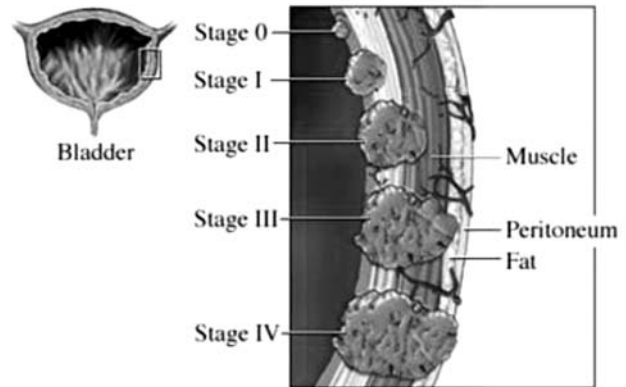


Fig. 1. The TNM convention

Bladder cancer is a frequent urological disease with a difficult prognosis, with the ability to quickly advance. This disease is more prevalent in males than in females, at a 3:1 ratio [1, 2]. According to Jewwitt's data, the number of deaths resulting from the urinary bladder cancer is 3% of the overall cancers. The incidence in males is 6 to 40 cases in 100 000 people, whereas the incidence in females is 1 to 7 in 100 000 [2]. Unfortunately, the incidence of bladder cancer in Kosovo is unknown, because of lack of data and because there is still no national database of malignant diseases. But, based on the data available at the Urology Clinic of the University Clinical Center in Prishtina, it can be implied that the incidence of the urinary bladder cancer is rather high.

The prognosis and the successful outcome of bladder cancer depends on the time of discovery of the disease and its pathohistological stage. Therefore, the surgical prognosis, outcome, and longevity of patients undergoing the orthotopic Hautmann neobladder reconstruction depends on the clinical pathology stage of the disease as well as the time when the



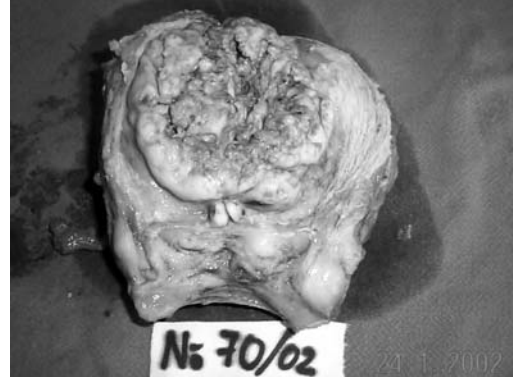
Fig. 2. Intravenous urography



Fig. 3. CT of the urinary bladder



**Pic. 4. Cystoprostatectomy preparations/samples**



patient is presented for surgical treatment [4–6]. The most suitable stages for the surgery that results in favorable treatment outcomes are pT1 and pT2. Pathohistologically, 90% of the cases are classified as transitional cell carcinoma, (8.)5% are squamous cell carcinoma, and about 2% are adenocarcinoma [x2]

Before proceeding with the surgical treatment, it is of utmost importance that the clinical stage according to the TNM convention be established.

The decision for the surgical treatment is taken after consulting the results of the preliminary TUR biopsy, and after identifying the stage of tumor differentiation (G1, G2, G3).

**The objective:** the purpose of this work is to show the advantages of orthotopic Hautmann neobladder reconstruction and determine quality of life of patients with ileal orthotopic bladder, as well as their post-op longevity [3, 7].

**MATERIALS AND METHODS**

To proceed with the Hautmann method, the scale of the invasion of bladder carcinoma is first determined. It is recommended that the cases with urothelial carcinoma be in the clinical stages T1-2, N0, M0, and also in pathological stages G1 and G2. The success of the ileal orthotopic bladder reconstruction is dependent on this. Moreover, patients should be between 50 and 70 years old, and in good health condition.

**Surgical Treatment**

Firstly, the pelvic lymphadenectomy is performed. Then, radical cystoprostatectomy is performed, until the level of the outer sphincter, which has to be preserved with utmost care.

Then, ileal segment is resected in the length of 40–50 cm, with good vascularization, which is detubulated in order to form the ileal plate of the orthotopic bladder. Urethrocystoneostomy is performed



**Pic. 5. Ileal segment**



**Pic. 6. Ileal plate**

*Table 1*

Age groups		
Age groups	Cases	%
31-40	1	4%
41-50	3	12%
51-60	5	20%
61-70	12	48%
71-80	4	16%
Total	25 cases	100%

*Table 2*

Total longevity		
Longevity in Years	Patients	Percentage
0-1 years	5	20%
2-3 years	6	24%
3-5 years	5	20%
12-15 years	4	16%
25 years	1	4%
Post-op cases that failed to show for follow-up	4	16%

on both sides, followed by the modeling of the ileal bladder. Finally, a 22 Chr tripling foley catheter is placed, and the urethroileal anastomosis is performed with sutures at 3, 6, 9, and 12 o'clock positions.

**RESULTS**

25 cases of orthotopic Hautmann neobladder reconstruction are presented. In 1990, 2 cases were performed. The first

Patients who are still alive

Patient initials	Date of Birth	Year of surgery	Survival Years
A.K.	1926	1990	25 years (expired in 2015)
M.U.	1926	2003	14 years (still living in 2017)
SH.N.	1941	2004	13 years (still living in 2017)
S.H.	1938	2005	12 years (still living in 2017)
Q.K.	1937	2005	12 years (still living in 2017)



Pic. 7. Post-operative intravenous urography



Pic. 8. Cystography of the ileal bladder with intravenous urography



Pic. 9. Retrograde urography of ileal bladder



patient lived for 25 years after the operation. The second patient unfortunately expired because of anesthesia complications within the first 24 hours. No new cases were performed for the next 9 years after that, because of political situation during that time. The work resumed in July of 1999. 23 new cases of radical cystoprostatectomy with orthotopic Hautmann neobladder reconstruction were performed until December 2005.

In terms of postoperative longevity, according to Table 2, 5 patients (20%) have expired within one year of treatment; 6 patients (26%) survived after 2-3 years; 4 patients (16%) had a longevity between 12 to 15 years; as well as the first case (4%) operated in 1990, who had a longevity of 25 years, with a good

quality of life, and without complications. Postoperatively, all of the patients were continent and with a wide urinary stream.

**CONCLUSION**

In conclusion, orthotopic Hautmann neobladder reconstruction is the most advanced and practical method available in Kosovo. Furthermore, it is an acceptable method for patients. This type of surgery offers a more comfortable and happy life for the patients. The success and the longevity of the patients is dependent from the stage of the invasion of the urinary bladder carcinoma and the grading of the carcinoma of the urinary bladder. The most suitable stage for the surgical intervention is pT1 and pT2, which is observable in people who still live and in good health.

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