Bladder cancer in the elderly patient: Benefits of a new Enhanced Recovery After Surgery (ERAS) concept

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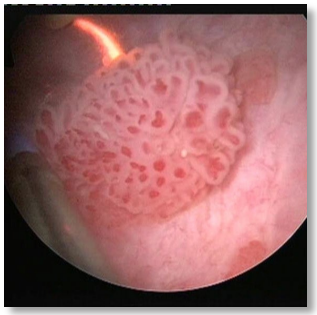
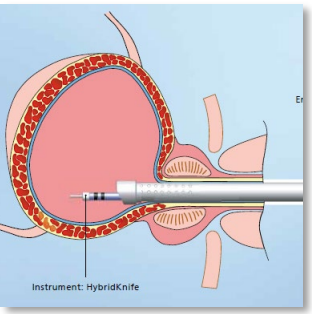
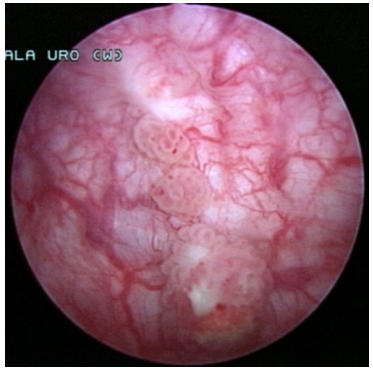




Bladder cancer

Epidemiology



- Around 35.000 new cases every year in Germany
- male : female = 2.5 : 1
- Mean age of patients: male 70 yrs / female 73 yrs

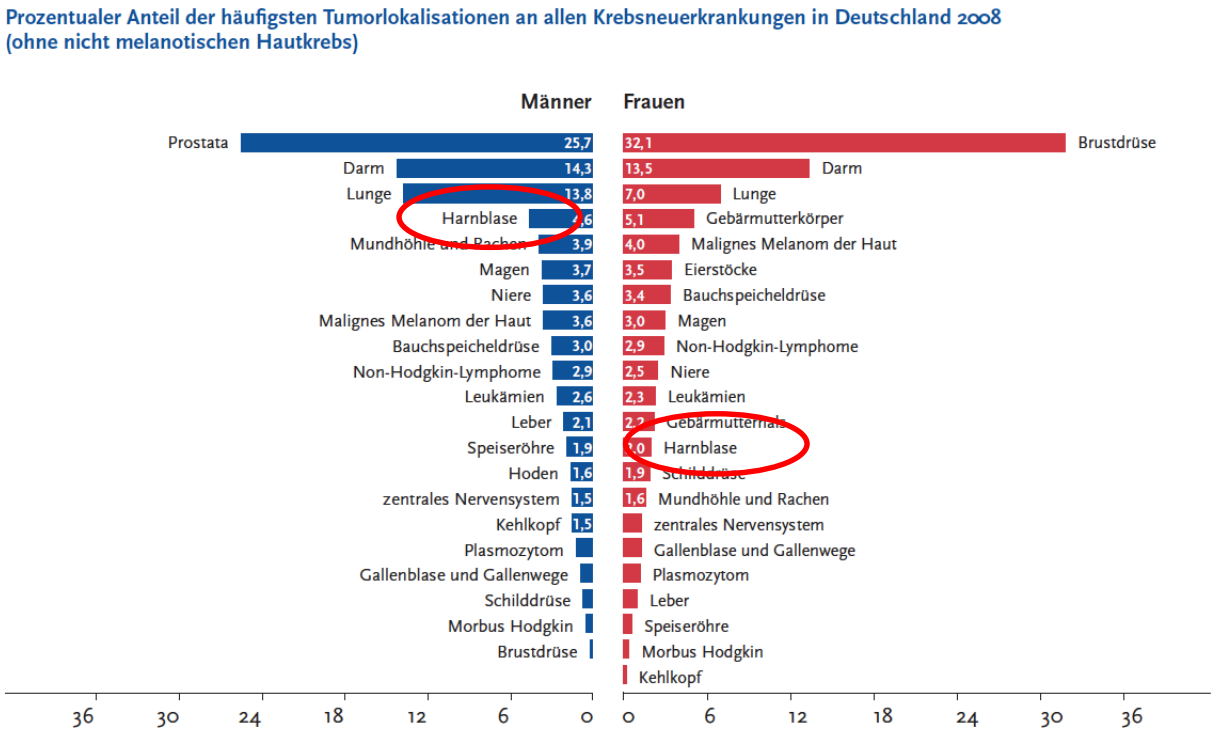
Risk factors

- Smoking
- Family history
- Prior radiation therapy
- Frequent bladder infections
- Certain chemicals (aromatic amines)

New incidences of cancer in Germany: Cancer List RKI

4th common cancer in men

13th common cancer in women

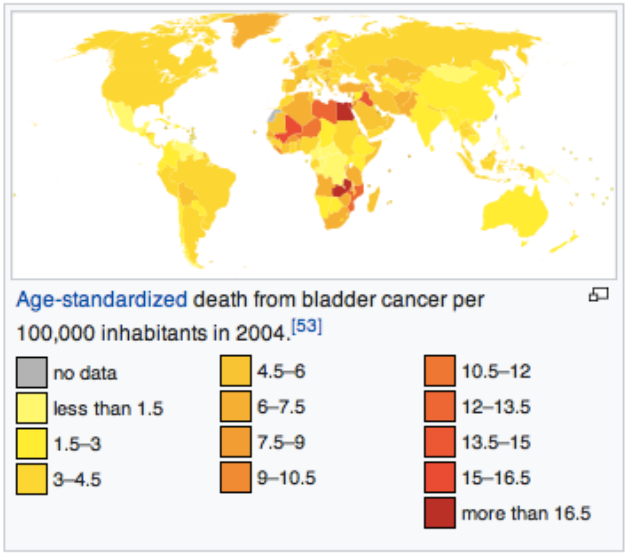


Data from the Robert Koch Institute www.rki.de

Bladder cancer worldwide

Worldwide

- 3.4 million current cases worldwide
- Globally, in 2010, bladder cancer resulted in 170,000 deaths up from 114,000 in 1990.
- This is an increase of 19.4%, adjusted for increase in total world population.



US

- In the United States, bladder cancer is the fourth most common type of cancer in men and the ninth most common cancer in women.
- More than 50,000 men and 16,000 women are diagnosed with bladder cancer each year.

Bladder cancer in China

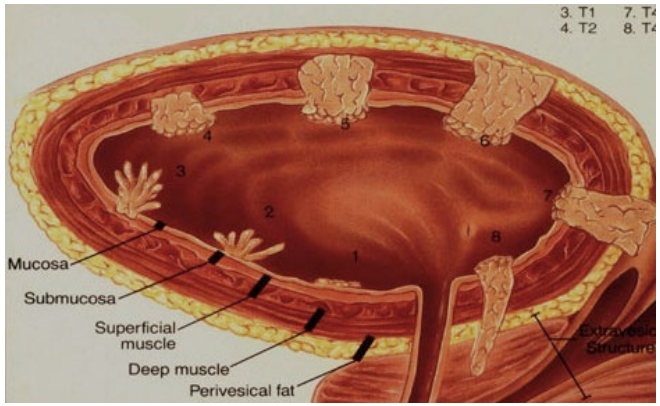
(Asian Journal of Urology, 2015)

- Bladder cancer (BCa) **is the most common urologic malignancy** in China.
- During the past few years, the incidence and mortality rates have increased gradually.
- From January 2007 to December 2012, clinical data of 14,260 BCa cases were retrospectively collected for the given study.
- The selected study was to investigate the current status of diagnosis and treatment for Chinese BCa by analyzing the database and to give evidences for Chinese guidelines.
- The majority of patients had a histology of urothelial carcinoma (91.4%).
- Muscle invasive bladder cancers were mainly treated with radical cystectomy. Open RC is still the standard operation for MIBC and the most common RC in China.

Radical cystectomy:
Gold standard in localized muscle invasive tumors

Radical cystectomy:

- This operation removes the entire bladder and nearby lymph nodes.
- In men, the prostate and seminal vesicles are also removed.
- In women, the ovaries, the uterus and cervix are often removed along with the bladder.

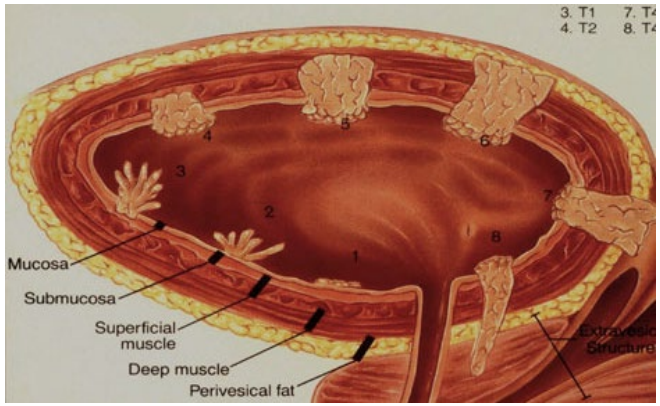


Radical cystectomy:
Gold standard in localized muscle invasive tumors

Reconstructive surgery after radical cystectomy

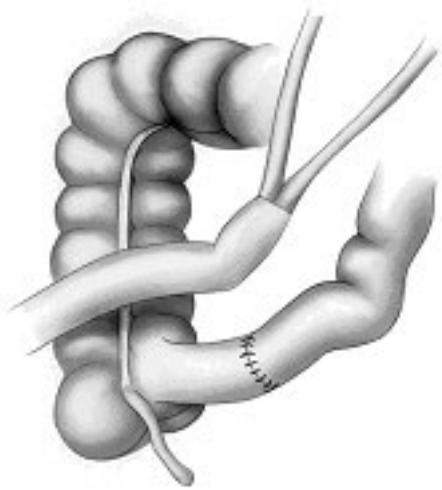
Incontinent diversion:

One option may be to remove a short piece of intestine and connect it to the ureters. This creates a passageway, known as an *ileal conduit*, for urine to pass from the kidneys to the outside of the body.



Urine flows from the kidneys through the ureters into the ileal conduit.

One end of the conduit is connected to the skin on the front of the abdomen by an opening called a *stoma* (also known as a *urostomy*).
After this procedure, a small bag is placed over the stoma to collect the urine, which comes out continuously in small amounts.



Radical cystectomy:
Gold standard in localized muscle invasive tumors

Reconstructive surgery after radical cystectomy

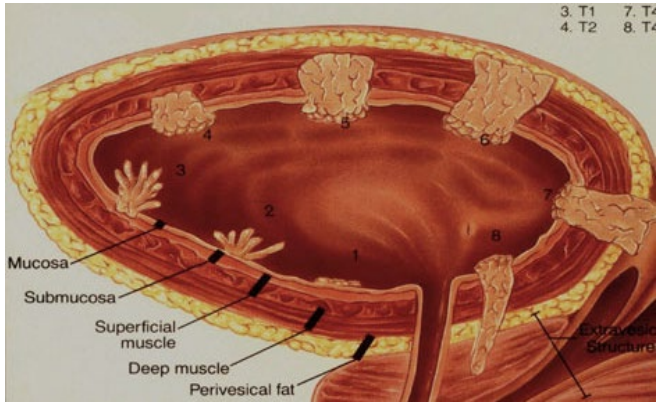
Continent diversion:

Neobladder:

The surgeon creates a *neobladder* –made of a piece of intestine.

As with the incontinent and continent diversions, the ureters are connected to the neobladder.

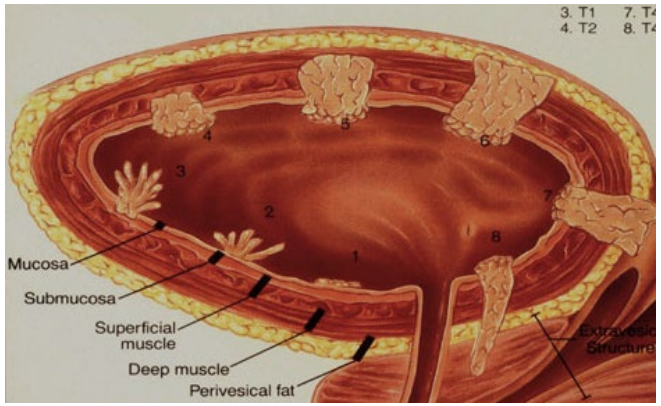
The difference is that the neobladder is also sewn to the urethra. This lets the patient urinate normally.



Radical cystectomy:
Gold standard in localized muscle invasive tumors

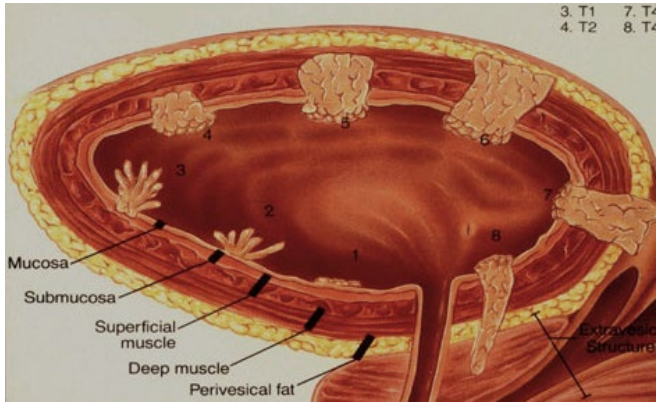
The draw back in radical cystectomy:

- 3-month mortality rate is up to **9%** and **50-60%** of patients will have early postoperative complications.
- The most frequent early complications are:
  - Postoperative ileus
  - Wound infection
  - Urinary tract infections
  - Cardiopulmonary and thromboembolic events



Radical cystectomy:
Gold standard in localized muscle invasive tumors

Different factors play an important role for the reduction of postoperative complications and mortality in these patients:



- Numer of patients treated at one center
(the bladder cancer clinic at LMU is the largest center for radical cystectomies in Germany – www.weisse-liste.de)
- Reduced perioperative blood loss
- Short operation times
- Use of ERAS Concepts

First prospective randomized study – ERAS at LMU

A New Concept for Early Recovery after Surgery for Patients Undergoing Radical Cystectomy for Bladder Cancer: Results of a Prospective Randomized Study

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From the Department of Urology (AK, AB, AB, MS, MS, KK, BS, TG, CG, CS), Department of Anesthesiology (EW) and Department of Abdominal Surgery (PR), Ludwig-Maximilians-University, Munich, Germany

Patients in total: n = 101

Randomization in 2 groups: n = **62** – **Enhanced Recovery after Surgery (ERAS)**
n = **39** - **Conservative Management (CM)**

Patients characteristics:

n = 82 male / n = 19 feamle
n = 49 Neobladder / n = 52 Ileum-Conduit
median age 69,5 yers
median BMI 27,2

Components of the ERAS Program at LMU

Preoperative:

High caloric drinks up to 2 hrs before operation

No exzessive bowel preparation before the operation

Postoperative:

No drains

Oral fluids on operation day allowed

High caloric drinks after the operations

Early nutrition on day 1 after surgery

Mobilization on day 1 after surgery

Results I – Quality of life

EORTC QLQ-30 Scores over time of hospitalization

		p preop	p day 3	p day 7	p discharge
PF2	Physical Functioning	-	**0.011**	-	**0.002**
RF2	Role Functioning	-	-	**0.025**	**0.016**
EF	Emotional Functioning	-	**0.015**	**0.046**	**0.004**
CF	Cognitive Functioning	-	-	**<0.001**	**<0.001**
SF	Social Functioning	-	-	**0.049**	**0.049**
FA	Fatigue	-	-	**0.014**	**0.003**
SL	Insomnia	-	-	-	**0.019**
CO	Constipation	-	**0.046**	**0.009**	**0.003**

Results II - Pain

Use of analgesics

Use of analgesics yes/no			
WHO Class 1:	FT 90%	KM 100%	**p=0.045**
WHO Class 2:	FT 16%	KM 36%	**p=0.026**
WHO Class 3:	FT 100%	KM 100%	p=1.000
Time of analgesics use			
WHO Class 1:	FT shorter then CR		**p<0.001**
WHO Class 2:	no difference		p=0.931
WHO Class 3:	FT shorter then CR		**p<0.001**

Results III - Morbidity

	% cases ERAS	% cases CR	p value
hydronephrosis	10	13	0.622
urinary tract infection	40	38	0.852
antibiosis for UTI	35	33	0.825
cardiovascular	8	13	0.436
TVT	0	8	0.027
embolia	2	8	0.127
wound healing disorders	15	38	0.006
paralytic ileus	15	28	0.093
fever	26	54	0.004

Conclusions

Performance of radical cystectomy using an easy to apply fast track regimen seems to have multiple benefits regarding postoperative:

- Quality of life
- Need for analgesics
- Morbidity
- Time at intermediate care etc.

Our results indicate that the use of ERAS protocols is beneficial for patients undergoing radical cystectomy.

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