

Balloondissection in laparoscopy: useful or dangerous? To blow or not to blow?

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Introduction: A literature review on PubMed shows 96 articles concerning balloon dilatation as pneumodissection in laparoscopy. This type of blunt dissection in the retroperitoneum for renal and adrenal surgery and in the cavum Retzius for lymph node dissection, inguinal hernioplasty and radical prostatectomy is commonly used nowadays. Only few articles mention the possible complications of balloon dilatation.

Patients and methods: We present our initial experience of balloon dilatation in different extra- or retroperitoneal endoscopic interventions. As many centers we use the balloon dilatation at the beginning of an extraperitoneal endoscopic radical prostatectomy (EERPE) and/or lymphadenectomy. A new idea in our center is the use of the balloon dilatation in the development of the anterior dissection plane in laparoscopic radical cystoprostatectomies (LRC).

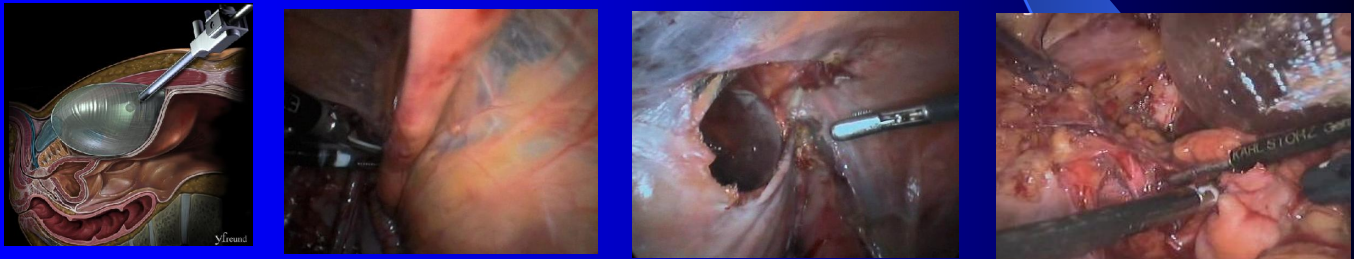
We also use the principle of balloon dilatation for better exposure peroperative: the balloon of a Foley bladder catheter is placed between the rectum and the prostate for better exposure of the prostatic pedicles and protection of the rectum during the posterior prostate dissection in EERPE. This manoeuvre helps us to avoid rectum lesions and prevents extra placement of trocars for exposure.

Results: In the LRC procedures (n=7) the balloon dilatation showed to be a quick way of blunt dissection for the anterior plane of the bladder as it is known from the EERPE.

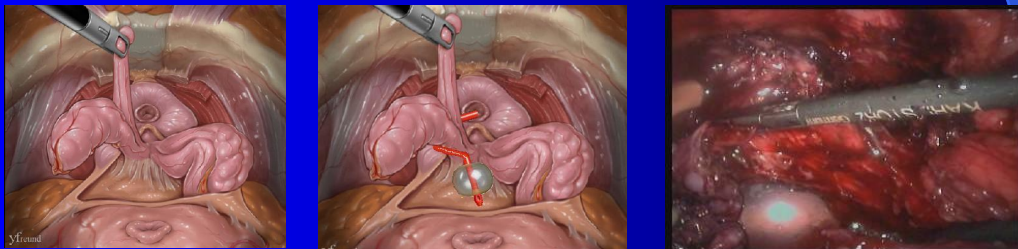
We did not encounter accidental opening of the peritoneum due to balloon dilatation in our serie of EERPE (n=49).

In the use of balloon pneumodilatation during the posterior dissection of the prostate we had no complications per- and post-operatively using the balloon of the Foley catheter.

Conclusions: Pneumodissection in extraperitoneal endoscopic procedures is a safe and fast technique to create a working space. Nevertheless we should know the possible complications and be able to deal with them. The principle of pneumodissection can also be useful during the procedure to ameliorate the exposure and protect other organs or structures from accidental damage.



Serie 1: These images show the technique of creating the anterior plane in LRC using the balloon dissection.



Serie 2: Using a Foley catheter, placed in between the posterior plane of the prostate and the rectum, balloon dissection is used as balloon protection and better exposure.

History of balloondissection

- § 1978 Wickham - Retroperitoneal Ureterotomy
- § 1992 Gaur - Introduction of the balloon dissector
- § 1999 Bollens - Extraperitoneal Endoscopic Radical Prostatectomy

Expansion techniques to create an extraperitoneal space:

- 1) Blunt dissection for preperitoneal endoscopy
 - Finger dissection
 - Laparoscopic pneumodissection
- 2) Balloondissection for retroperitoneoscopy: *blind - de visu*
 - Gaur → balloondissection technique (blind)
 - Laparoscopic glove finger dissection
 - Balloon trocar dissection (de visu)

Advantages of extraperitoneal endoscopy:

- Decreased risk of accidental injury to organs
- Reduced risk of postoperative adhesion formation
- Shorter postoperative ileus
- Less risk of intra-abdominal infections / peritonitis
- Urologists' familiarity with this anatomic plane/approach

