20TH ANNUAL CONFERENCE
OF THE EGYPTIAN GROUP
OF COLON AND RECTAL SURGEONS

Organ preservation in rectal cancer

GL Beets

Department of Surgery
Netherlands Cancer Institute
Amsterdam The Netherlands

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- No disclosures

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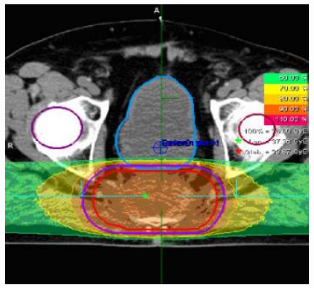
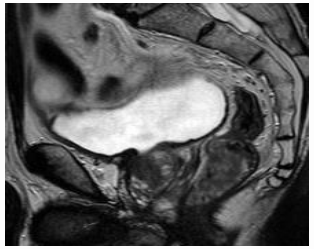
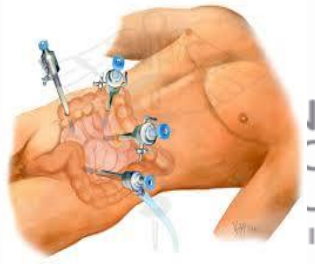
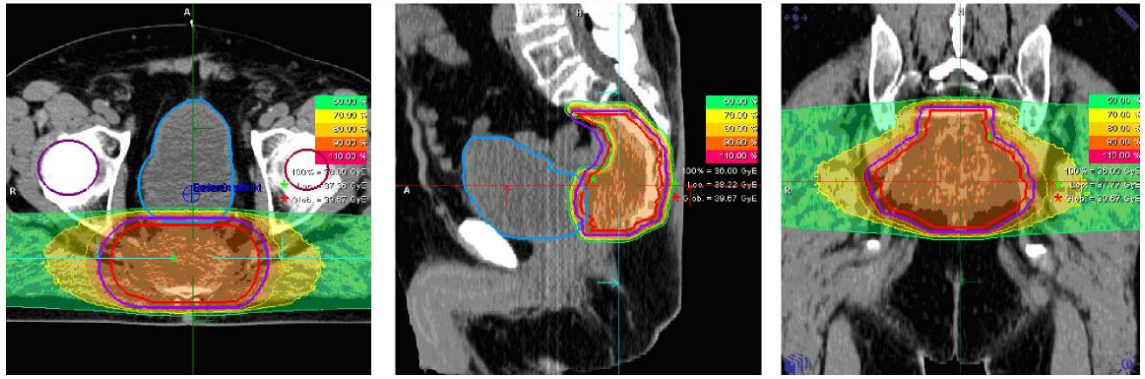
Major steps forward

- Surgical technique: TME +++
- Radiotherapy +
- Imaging: MRI ++
- Minimal invasive techn. +
- Systemic therapy +/-









RT
Part 1

- 20-30 yrs randomized trials
- (Ch)RT and TME Surgery
- Goal: improving oncological results

- Better local control
- No survival advantage
- Functional disadvantage

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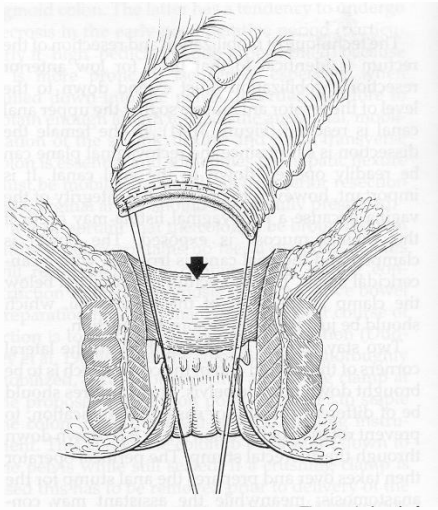
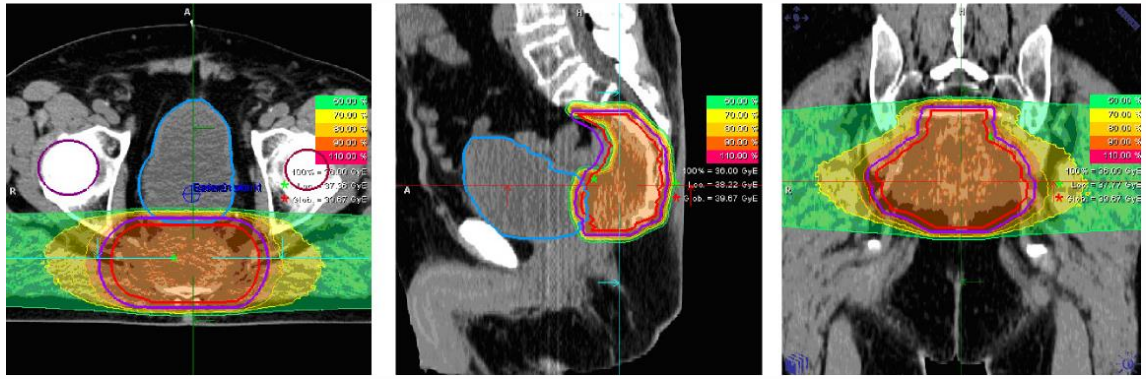
Improved outcome?

- Postop morbidity – mortality
- Frail – Elderly
  - goal: remaining independent?
- Anorectal/urogenital function
- Body image
- Patient preference





RT
Part 2

- Organ preservation

- Prospective studies small tumors – TEM
- Observational studies complete responders
- Goal: improving functional results

- Good functional results
- Local tumor control?

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Neoadjuvant ChRT and TEM

- T1, T2, small T3, usually N0
- ChRT and TEM of remaining scar/tumor
- Completion TME when >pT1, incomplete, …

- Organ preservation in 50-60%
- ypT0 in around 50%

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ACOSOG, GRECCAR, CARTS, TREC, LEADER, Lezoche, ….

Neoadjuvant ChRT and TEM

- Works well for small tumors
  - High chance of organ preservation
  - Beneficial for the good responders

- Dilemma: those who still require a TME?
  - Double toxicity of ChRT and surgery?
  - Would have been better off with surgery only?

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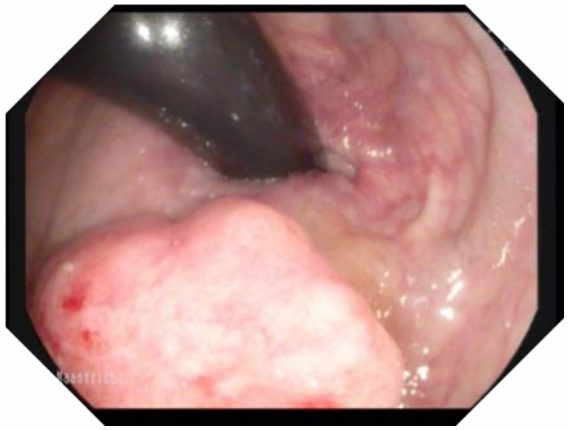
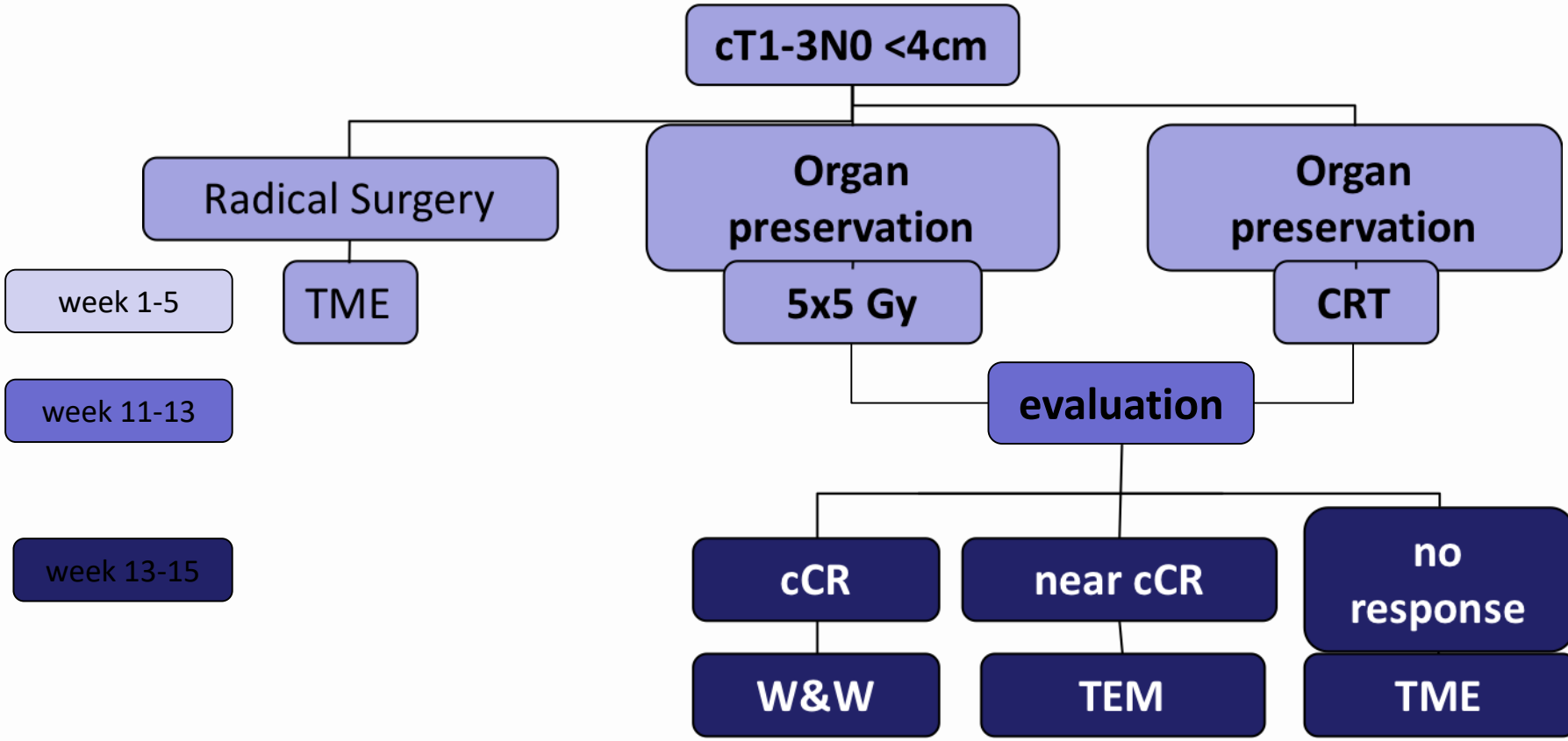


DUTCH CANCER SOCIETY



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Small tumours

- additional ChRT
- ‘planned’ organ pres.
- +/- local excision

Large tumours

- Standard ChRT + TME
- ‘opportunistic’ organ pres.
- W&W

>50%

10-25%

Organ Preservation

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Watch & Wait

Operative Versus Nonoperative Treatment for Stage 0 Distal Rectal Cancer Following Chemoradiation Therapy

Long-term Results

VOLUME 29 · NUMBER 35 · DECEMBER 10 2011

JOURNAL OF CLINICAL ONCOLOGY

ORIGINAL REPORT

Wait-and-See Policy for Clinical Complete Chemoradiation for Rectal Cancer

ORIGINAL ARTICLE

Nonoperative Management of Rectal Cancer With Complete Clinical Response After Neoadjuvant Therapy

Watch-and-wait approach versus surgical resection after chemoradiotherapy for patients with rectal cancer (the OnCoRe project): a propensity-score matched cohort analysis

Andrew G Renehan, Lee Malcomson, Richard Emsley, Simon Gollins, Andrew M… Anthony Blower, Mark P Saunders, Malcolm S Wilson, Nigel Scott, Sarah T O'D…

High-dose chemoradiotherapy and watchful waiting for …ancer: a prospective observational study

…arling, Frank S Jensen, Lars H Jensen, Jens C R Jørgensen, Jan Lindebjerg, Søren R Rafaelsen, Anders Jakobsen

Surveillance after neoadjuvant therapy in advanced rectal cancer with complete clinical response can have comparable outcomes to total mesorectal excision

Radhika K. Smith · Robert D. Fry · Najjia N. Mahmoud · E. Carter Paulson

ARTICLE

Long-term Outcome of an Organ Preservation Program After Neoadjuvant Treatment for Rectal Cancer

Milou H. Martens, Monique Maas, Luc A. Heijnen, Doenja M. J. Lambregts, Jeroen W. A. Leijtens, Laurents P. S. Stassen, Stephanie O. Breukink, Christiaan Hoff, Eric J. Belgers, Jarno Melenhorst, Rob Jansen, Jeroen Buijsen, Ton G. M. Hoofwijk, Regina G. H. Beets-Tan, Geerard L. Beets

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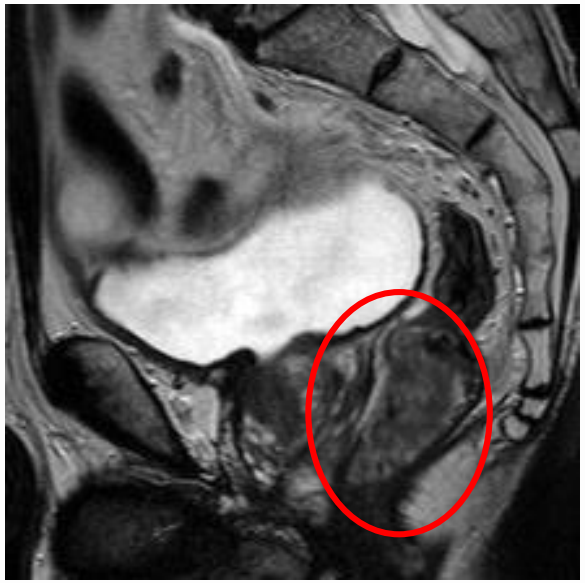
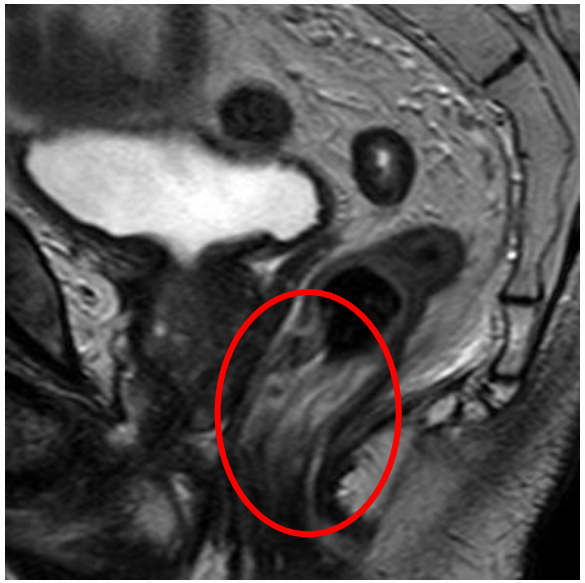
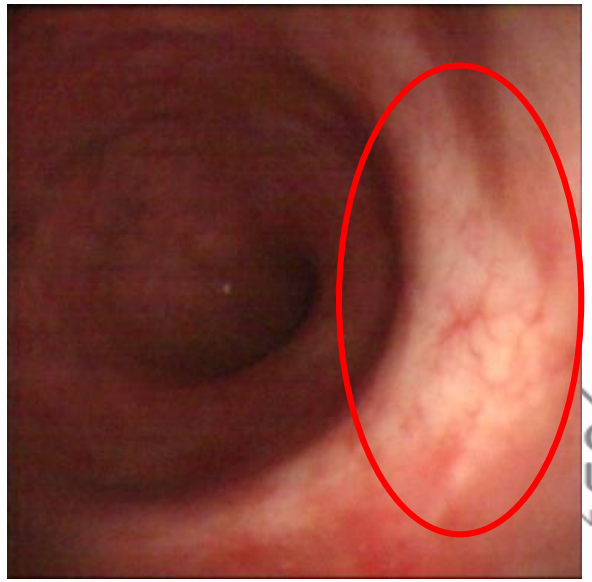
2004: My first W&W patient

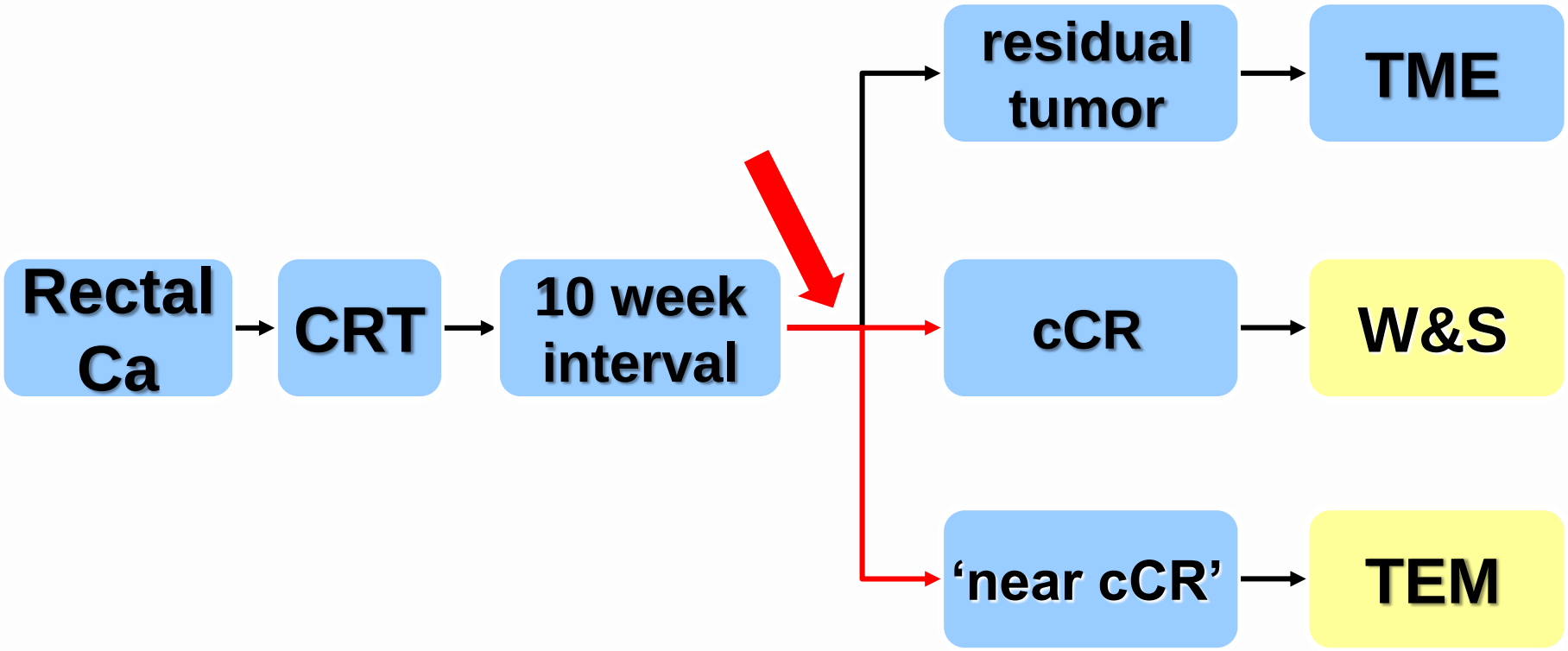
- age 67, distal cT3N1M0
- plan: chemoradiation and APR
- refused surgery







Protocol



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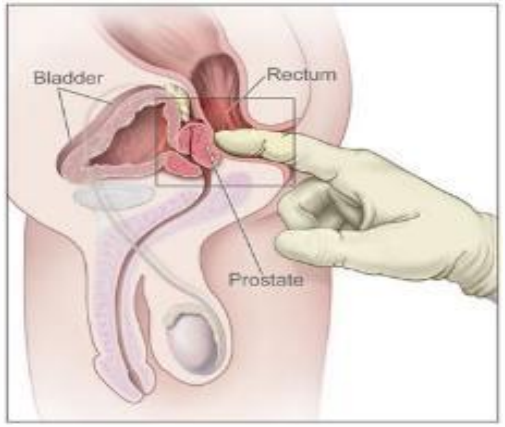
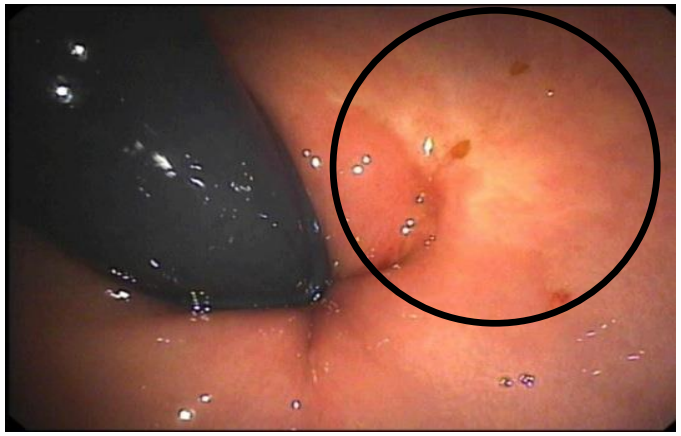
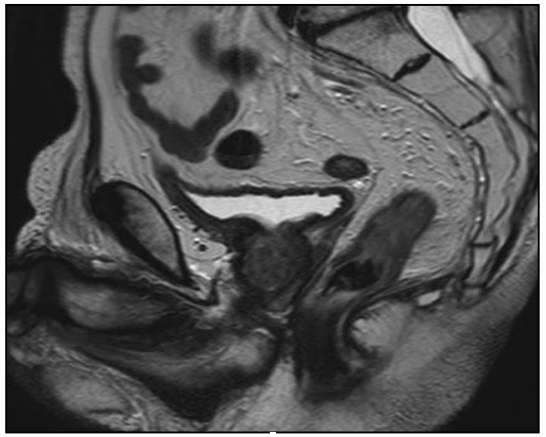
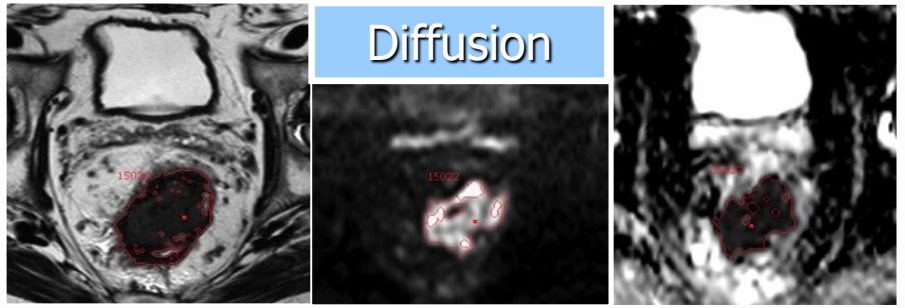
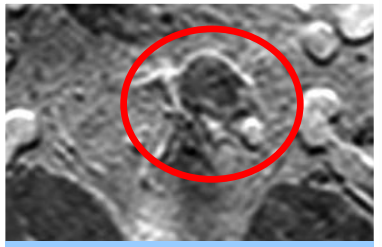
Selection of patients











Shared decision making:

risk – benefits - uncertainties

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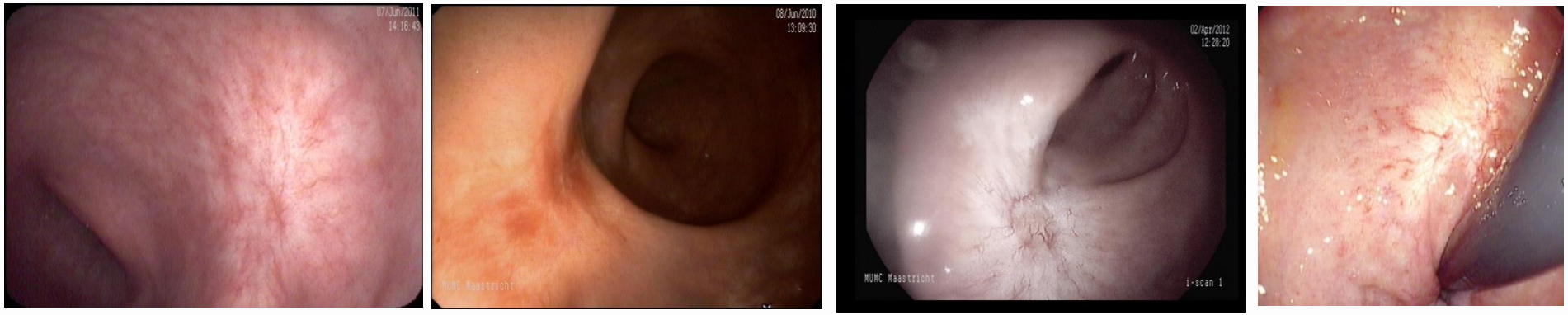
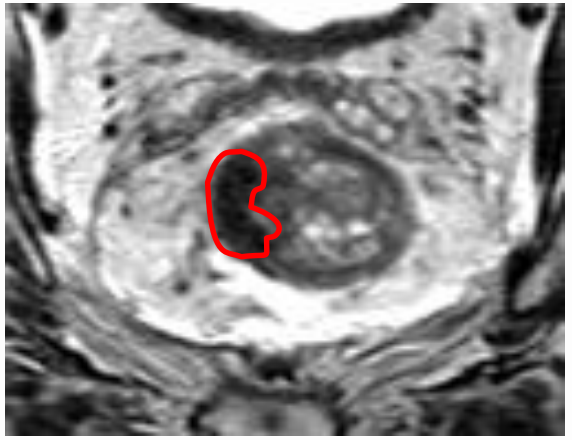
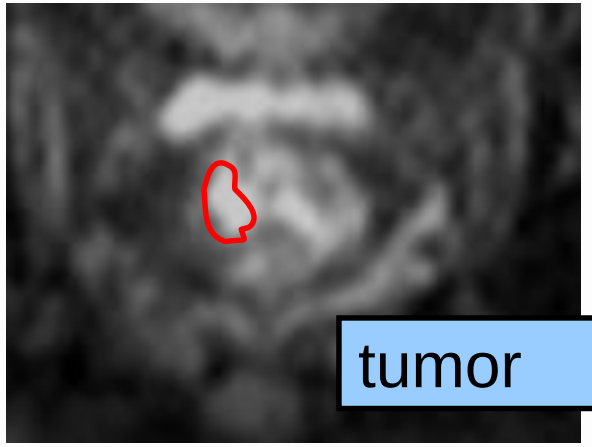
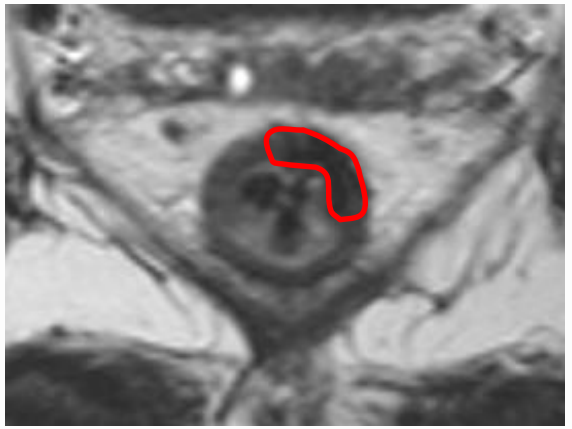
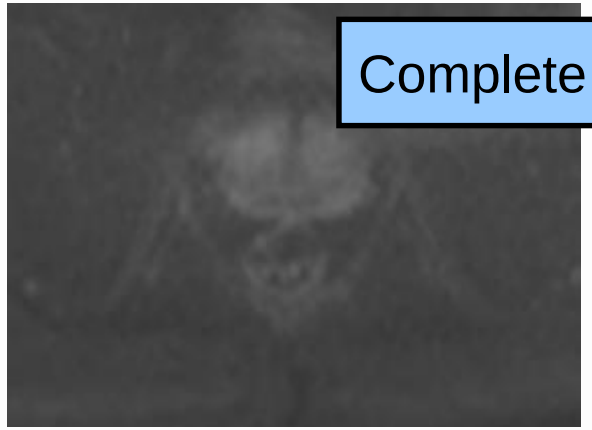






tumor





Complete response

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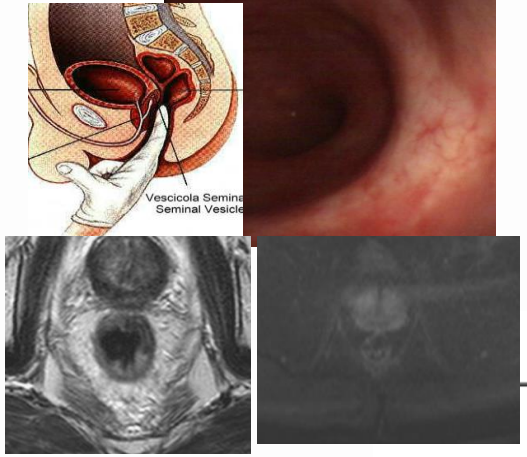
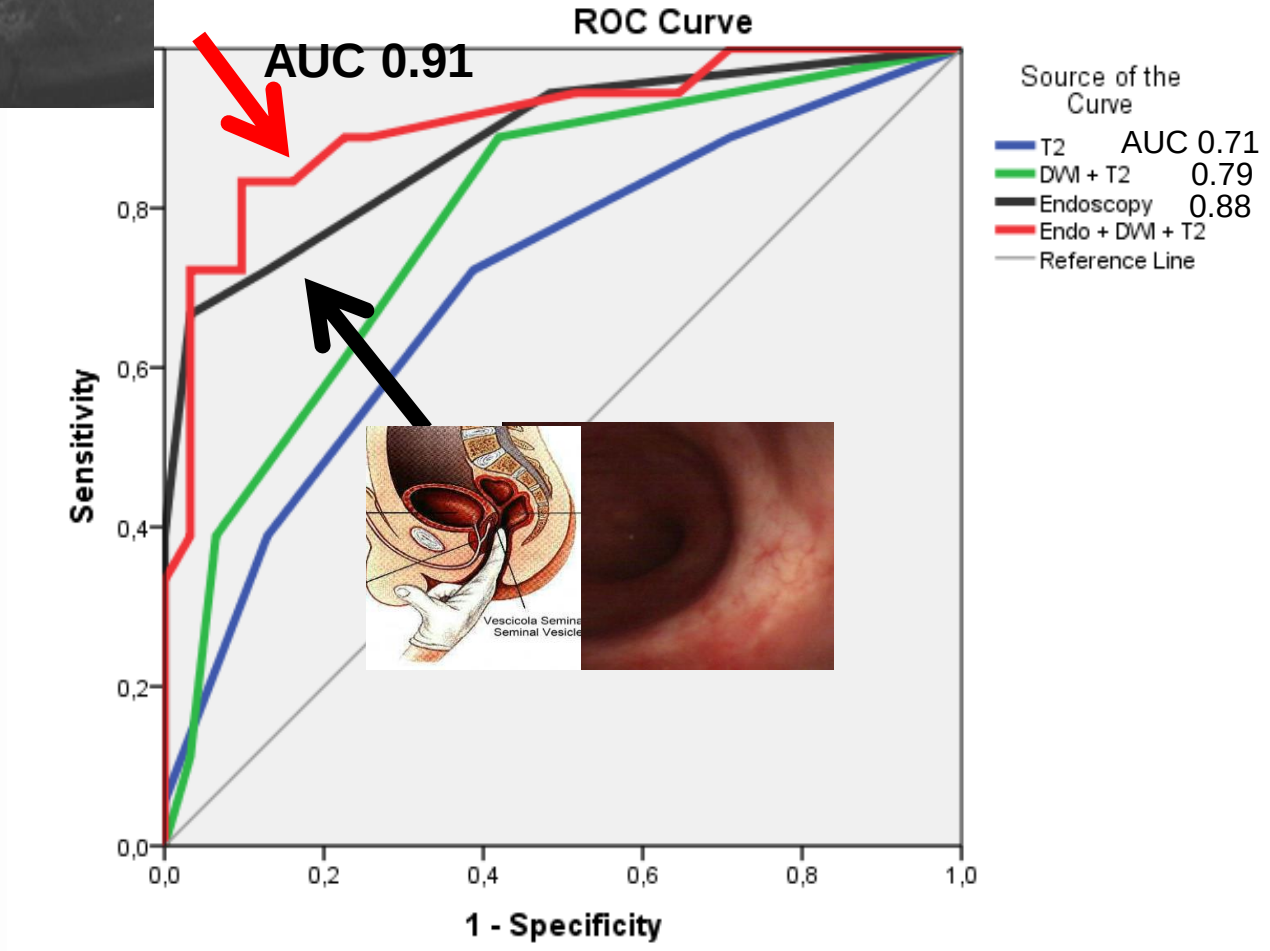
STANDARD MRI

DIFFUSION MRI

Selection cCR
Endoscopy or DWI?





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Maas et al. Annals Surg Oncol 2015

Follow up

- Selection of complete response
  - Not 100% accuracy
- Acceptable if
  - Persistence of tumour detected early
  - Salvage treatment is successful
- Change of concept

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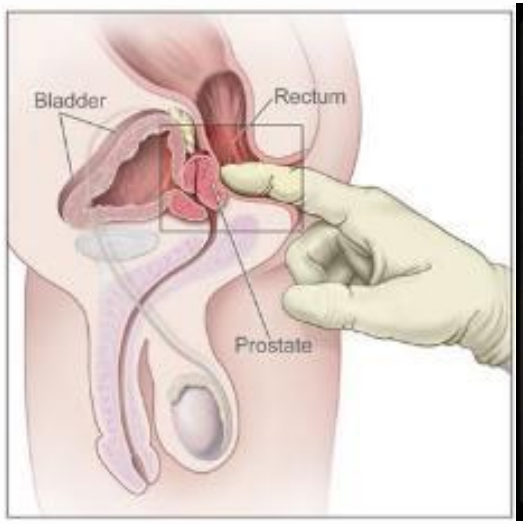
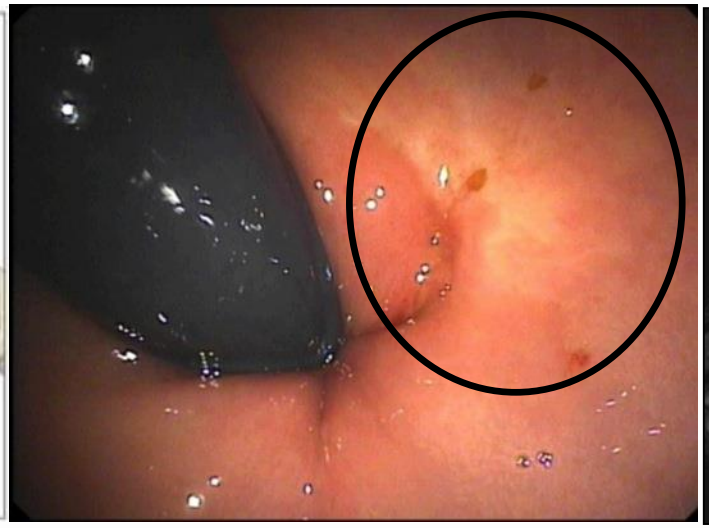
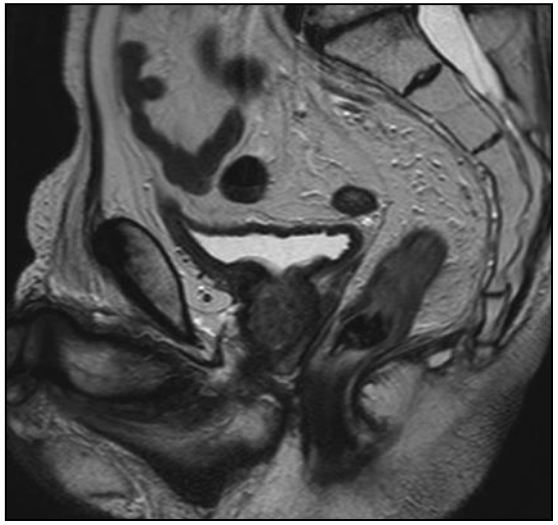
Follow-up







Year 1	Year 2	Year 3	Year 4	Year 5
4x MRI	2x MRI	2x MRI	2x MRI	2x MRI
4x Endoscopy	2x Endoscopy	2x Endoscopy	2x Endoscopy	2x Endoscopy

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Patients 2004-2018

- 354 patients
- Stage III: 71%
- Distal tumors: 77%
- 93% after chemoradiation
- 7% after 5x5Gy long interval (chemo)
- Estimated 15% of CRT patients

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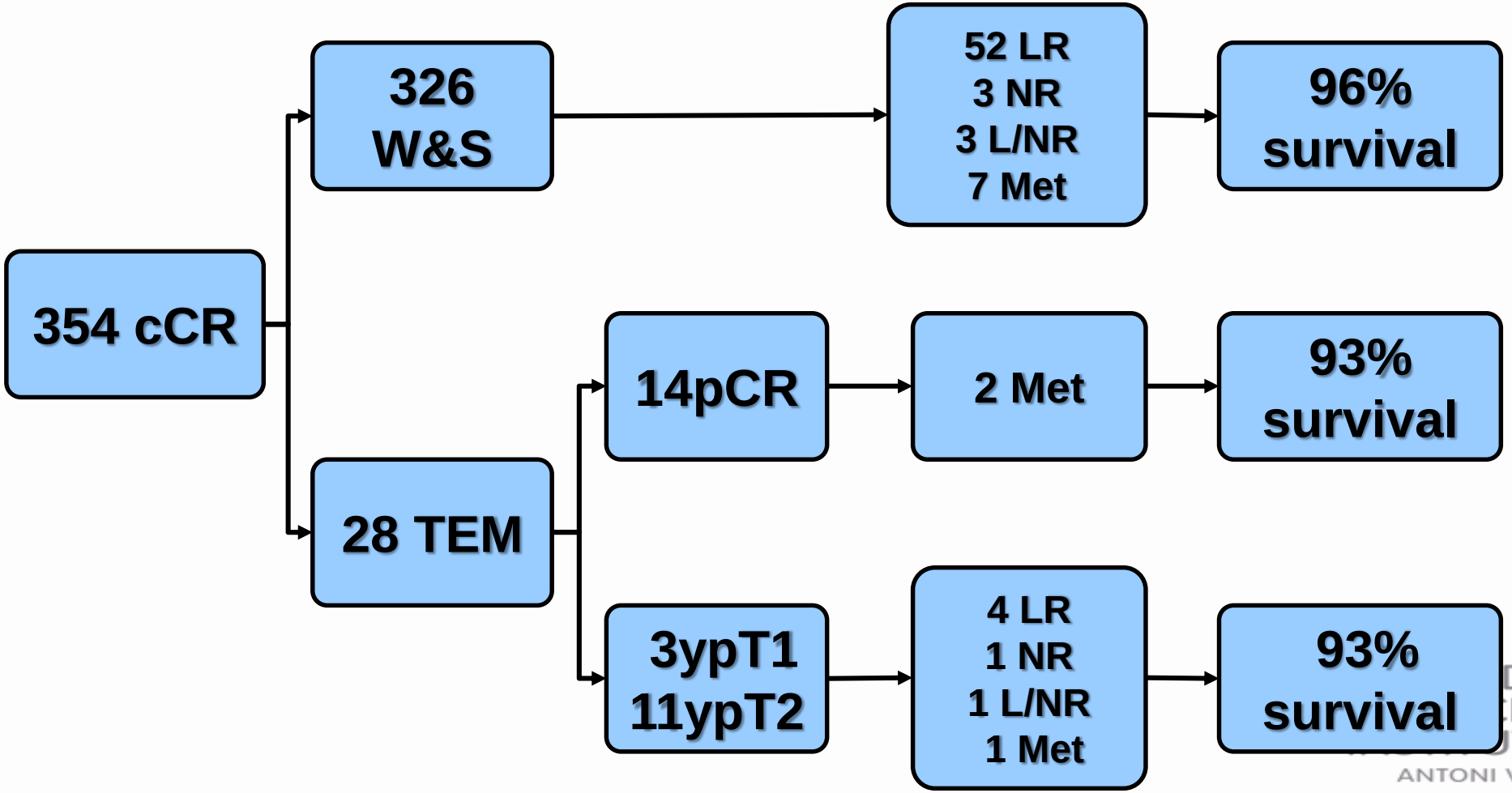
Oncological outcome

mean follow up: 28 months



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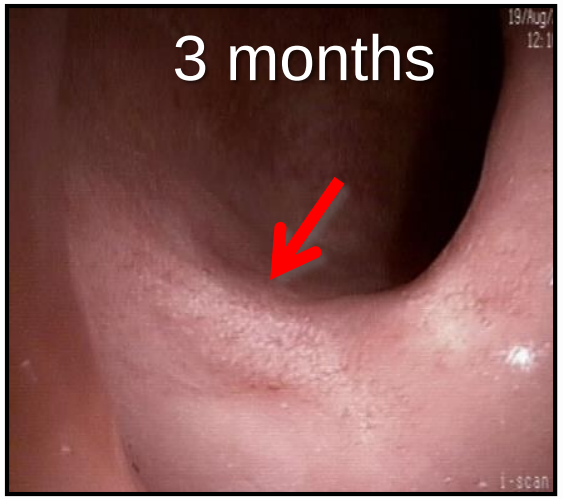
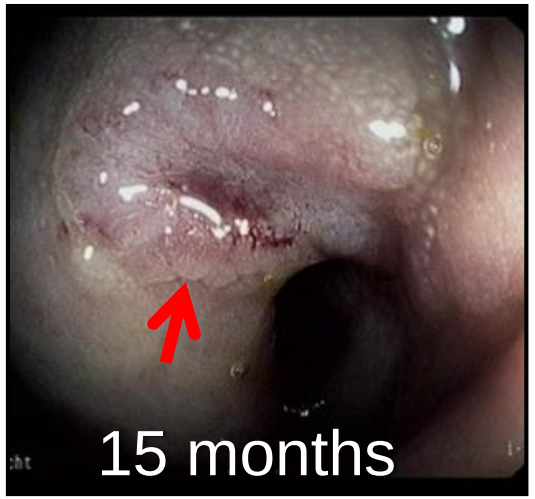
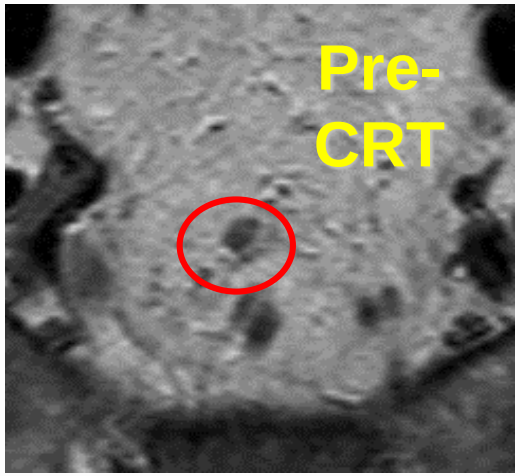
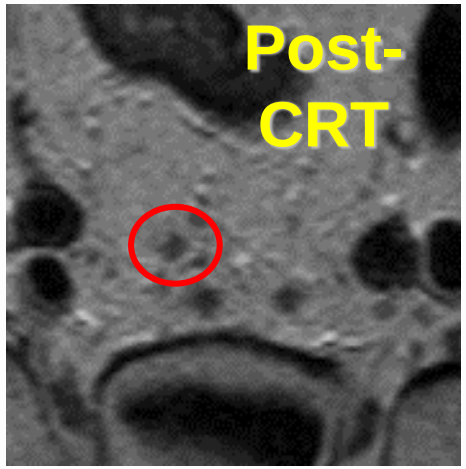
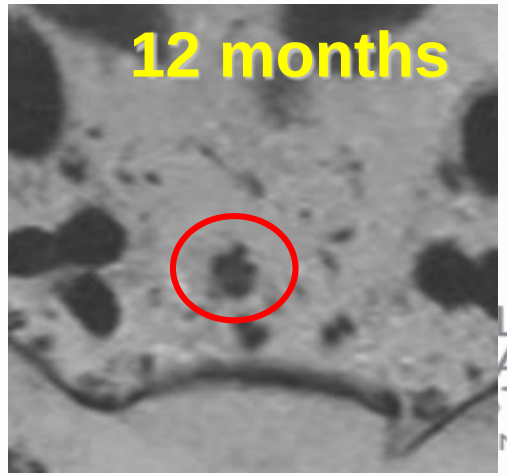
Luminal – nodal regrowth











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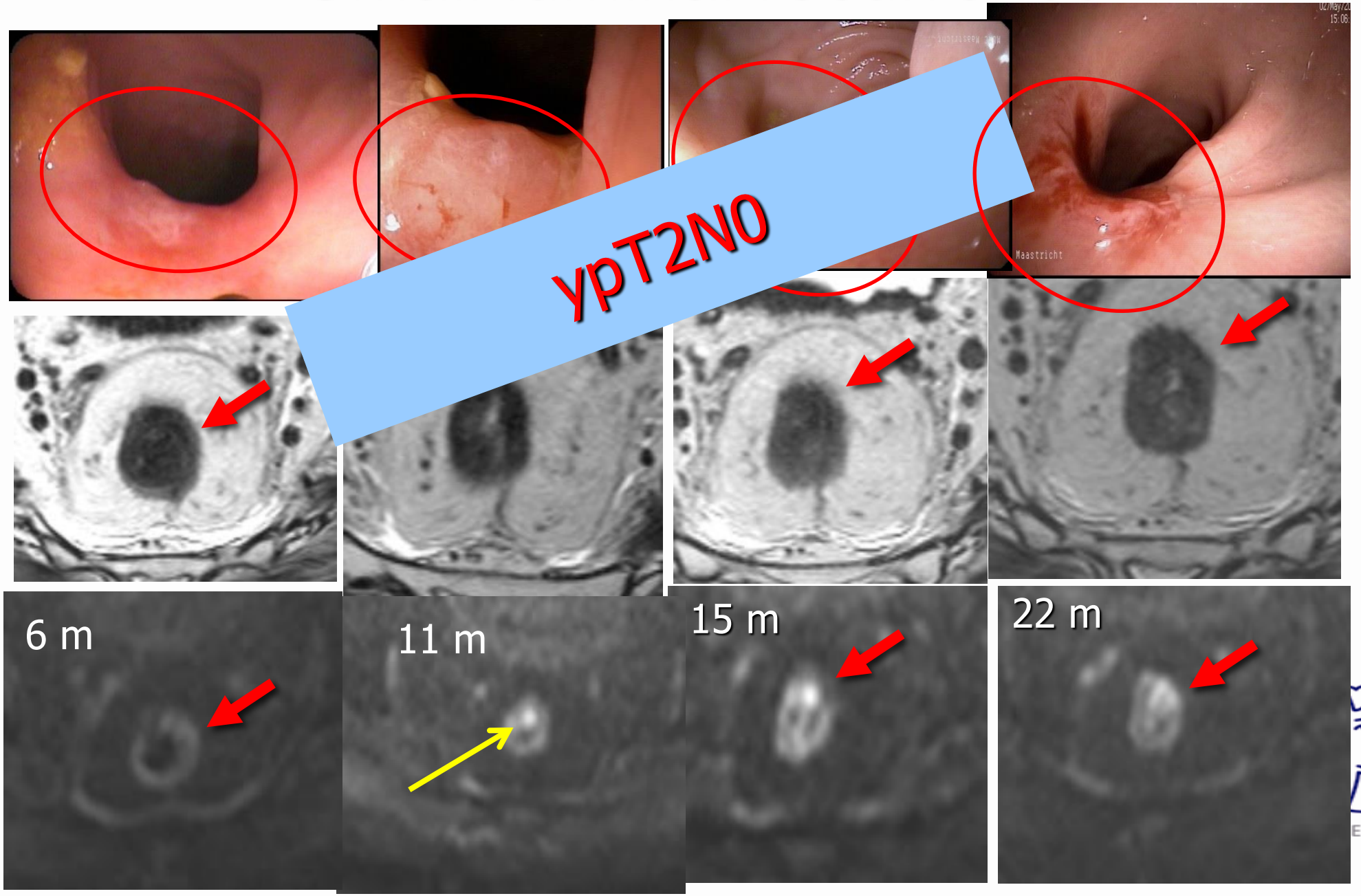
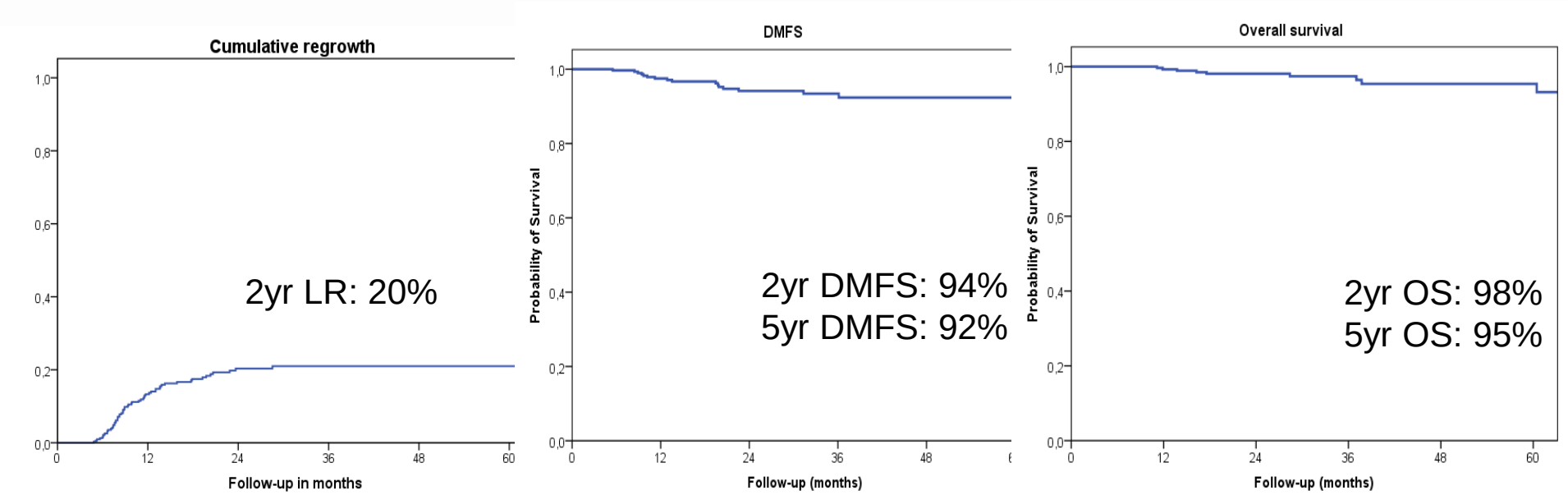
Small luminal recurrence



Oncological outcome



- all regrowth < 2 years
- completion/salvage surgery in all patients
- 100% pelvic control
- no M+ originating from regrowth (?)

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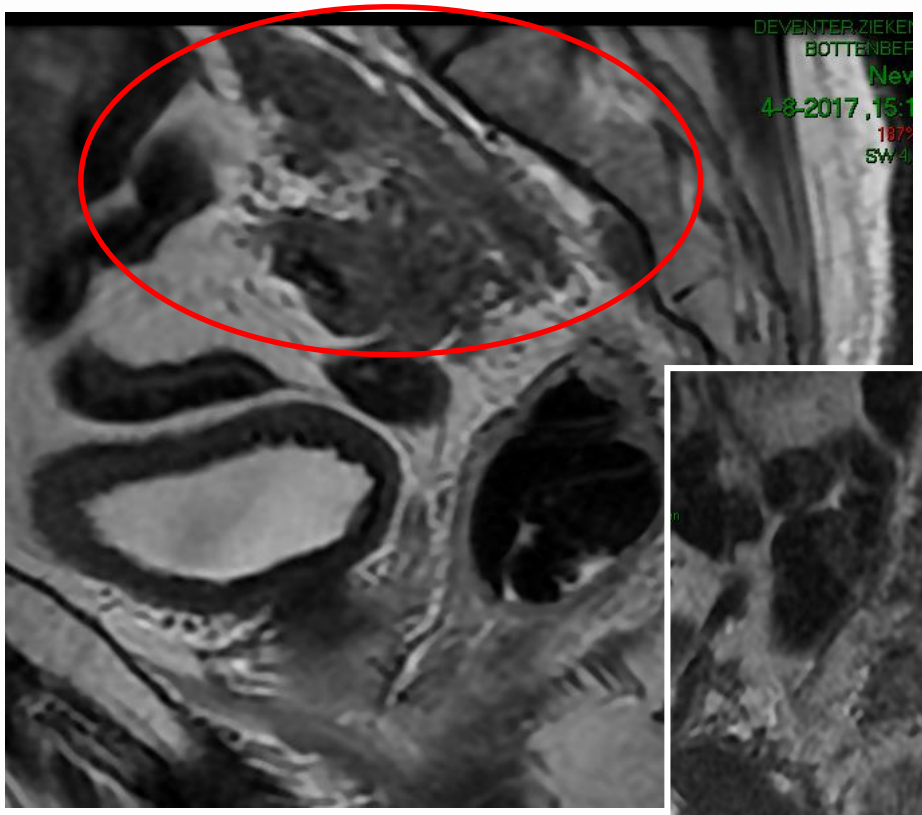
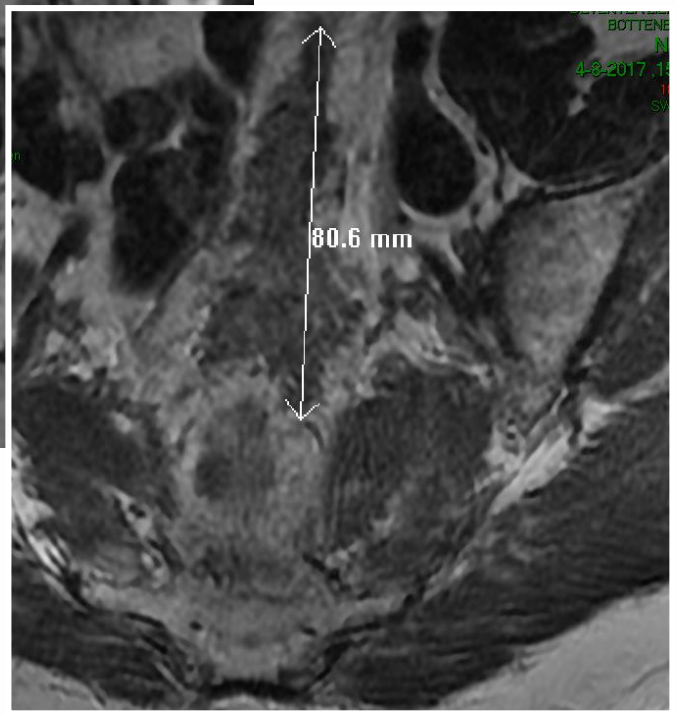
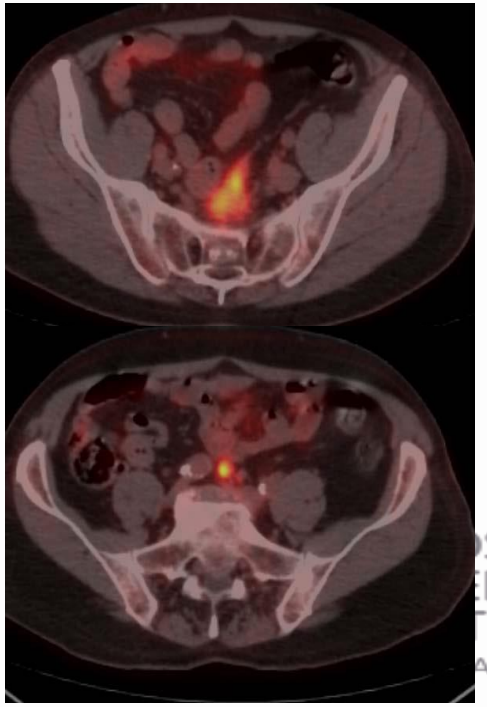
Follow up!!

High presacral extramural recurrence

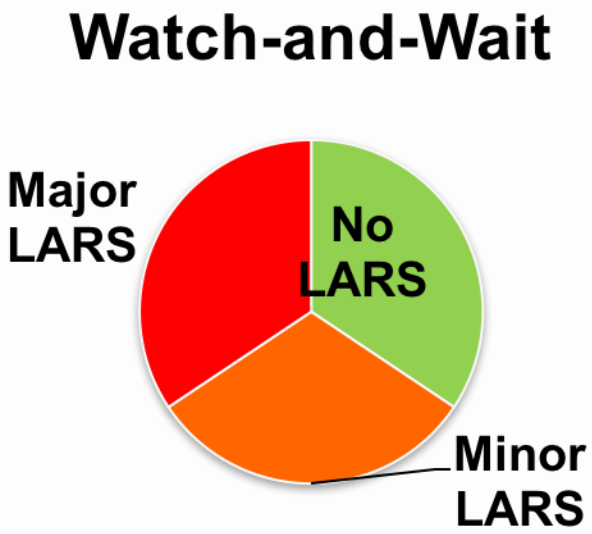


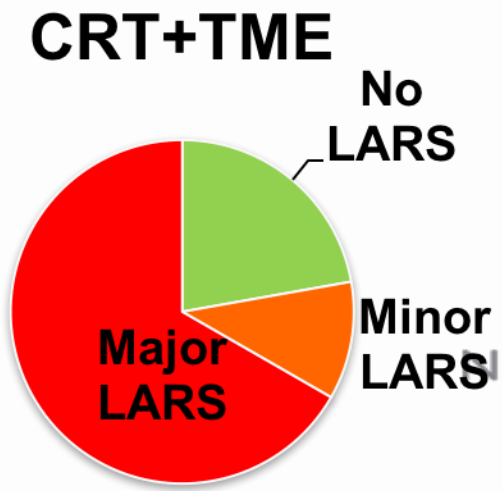




Functional outcome

- 3 yr colostomy free rate >90%
- EORTC CR38
  - Better in most domains
- LARS





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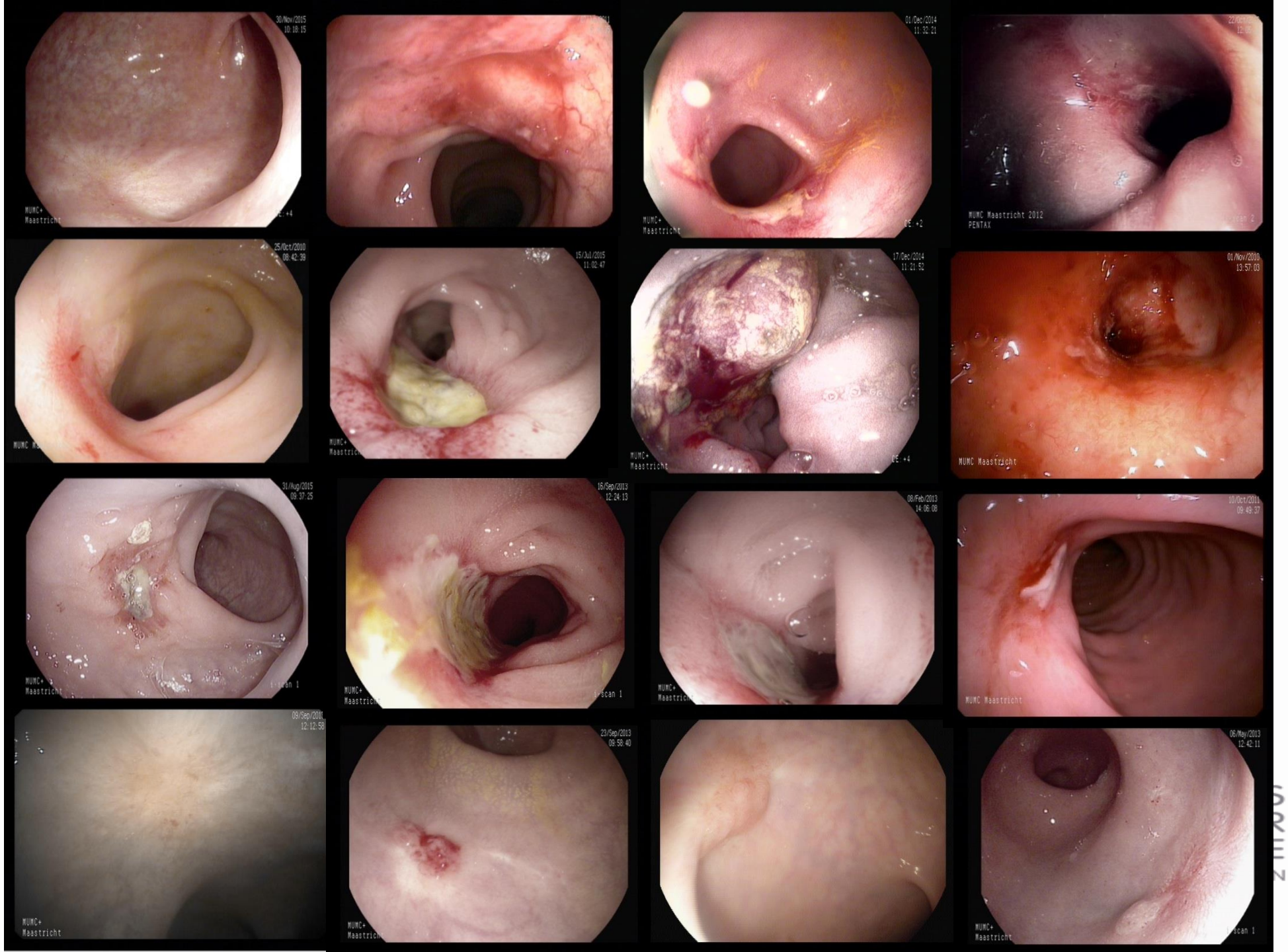

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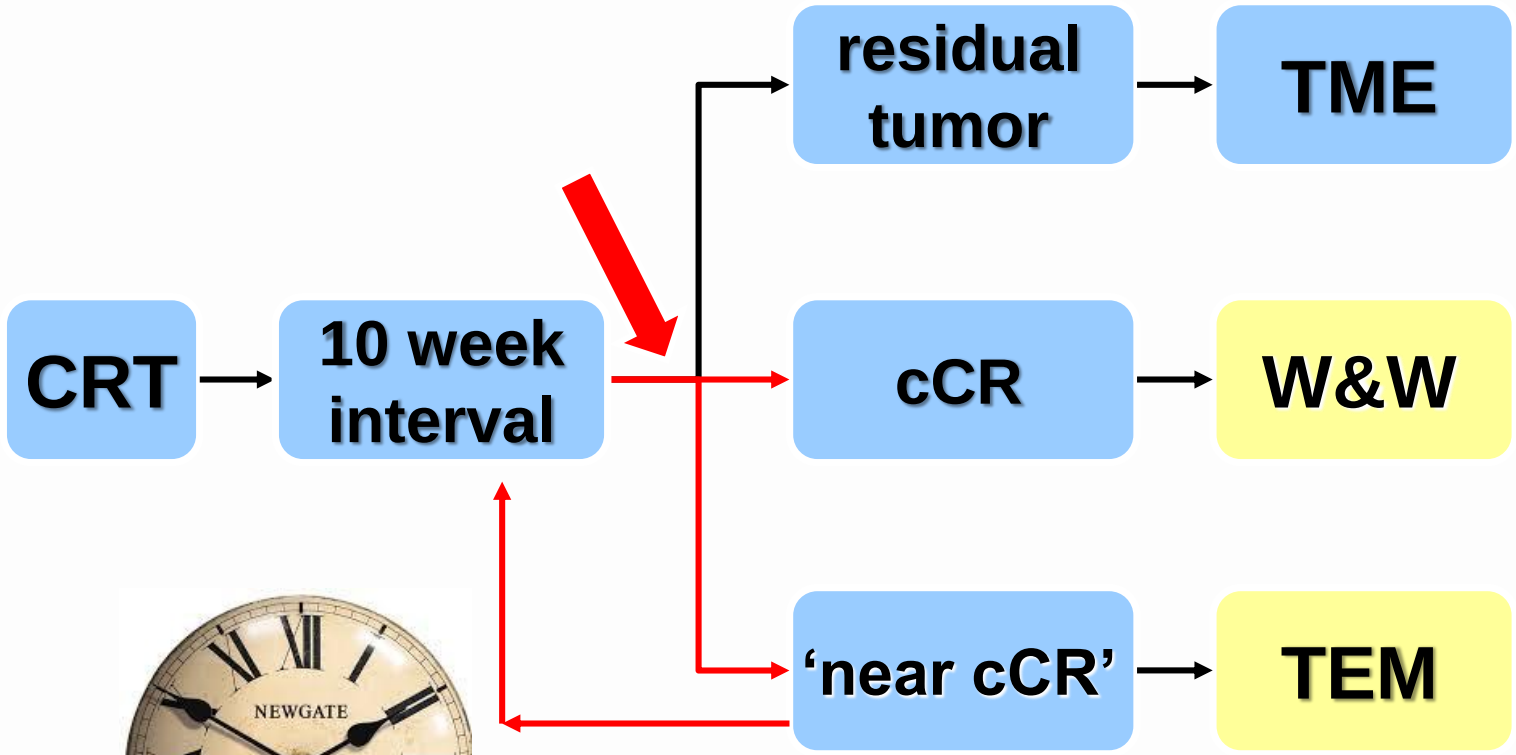
Current protocol – near cCR



"Test of time"

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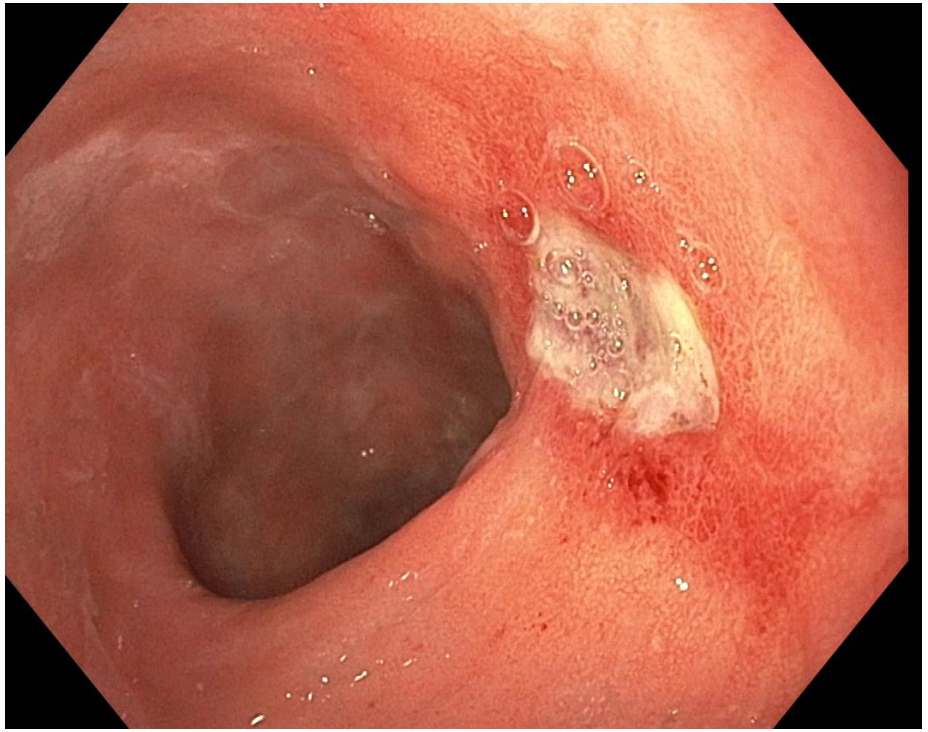
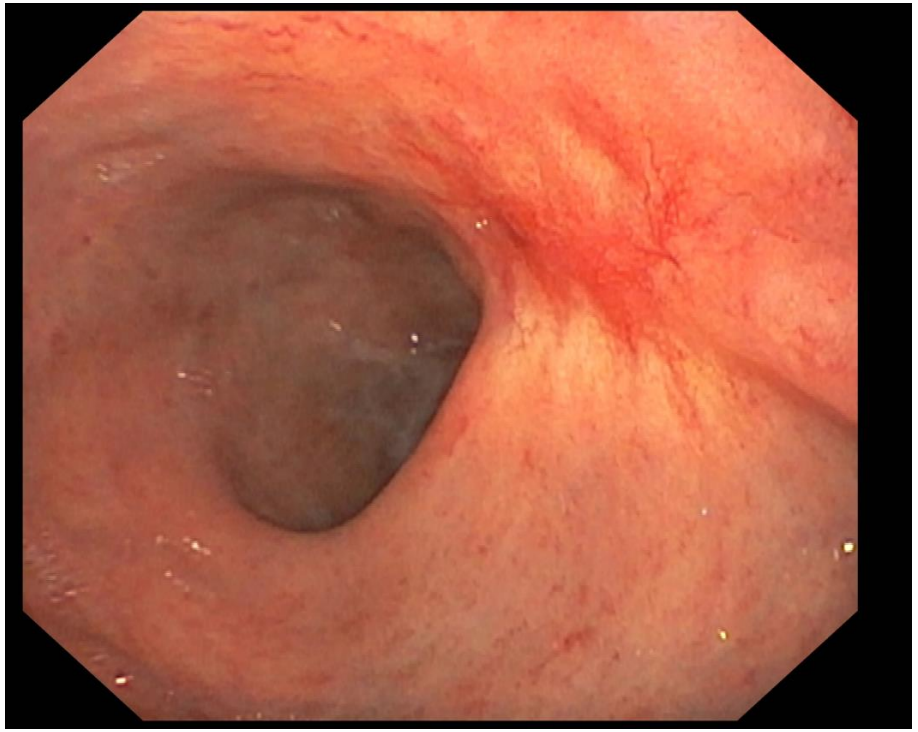
Time heals



8 weeks: flat ulcer – no Bx



16 weeks: flat ulcer – no Bx

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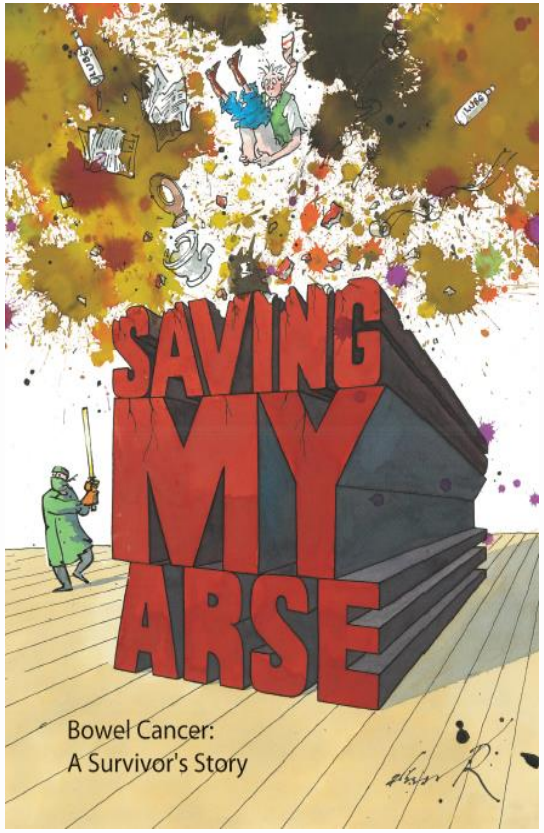
Organ Preservation
Very high interest of patients



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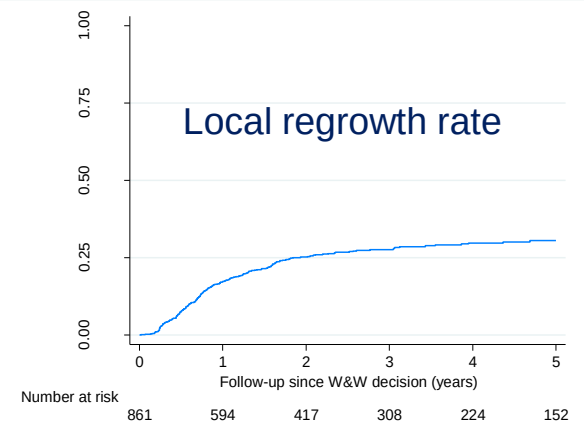
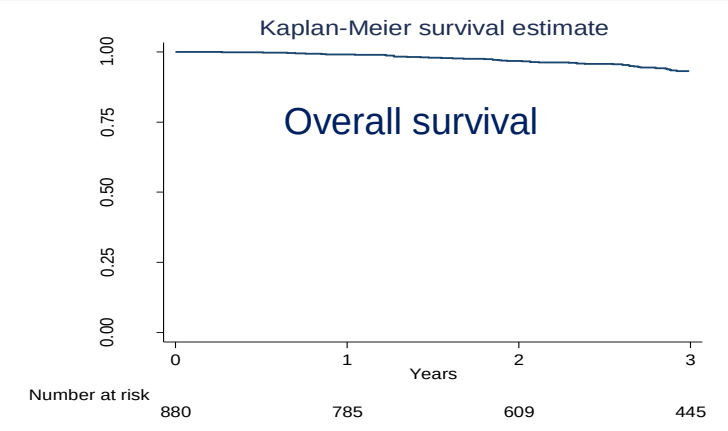
Long-term outcomes of clinical complete responders after neoadjuvant treatment for rectal cancer in the International Watch & Wait Database (IWWD): an international multicentre registry study

*Maxime J M van der Valk, Denise E Hilling, Esther Bastiaannet, Elma Meershoek-Klein Kranenbarg, Geerard L Beets, Nuno L Figueiredo, Angelita Habr-Gama, Rodrigo O Perez, Andrew G Renehan, Cornelis J H van de Velde, and the IWWD Consortium**

Lancet 2018

- 42 centers: 880 pts cCR, median FU 3.4 yrs
- Local regrowth rate 24% (97% endoluminally)
- Overall Survival 3yr: 93.2%
- Cause of death: rectal cancer 33%





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Multi-center registration/implementation Wait-and-see

- Prospective national study
- Regional expert centers
  - Training-supervision
- All data prospectively entered in database

Nationale registratie
Wait & See
Rectumcarcinoom

DUTCH CANCER SOCIETY

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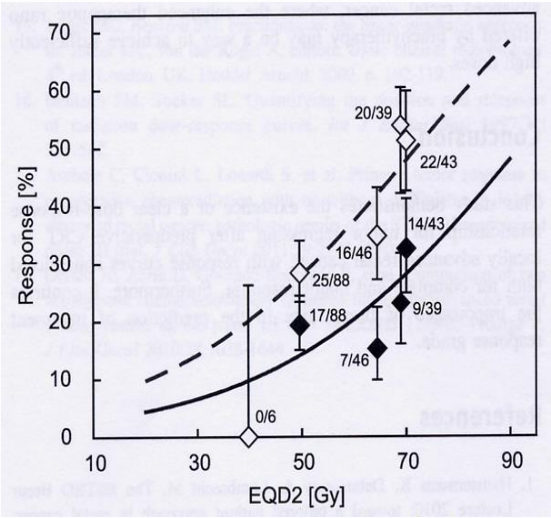
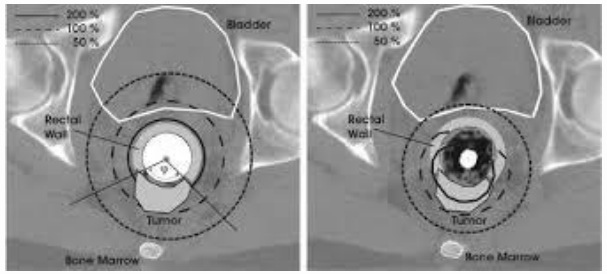
Can we improve the response rate?

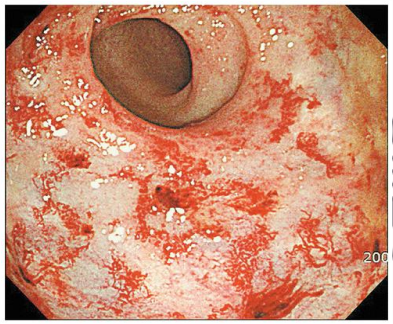
- Systemic therapy
- Radiosensitizers
- Immunotherapy
- Additional radiotherapy
  - External boost
  - Internal: brachy - contact



Appelt 2013 IJROBP

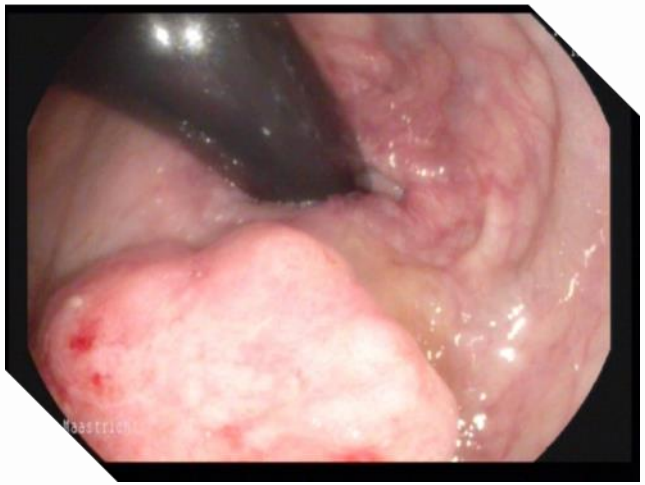
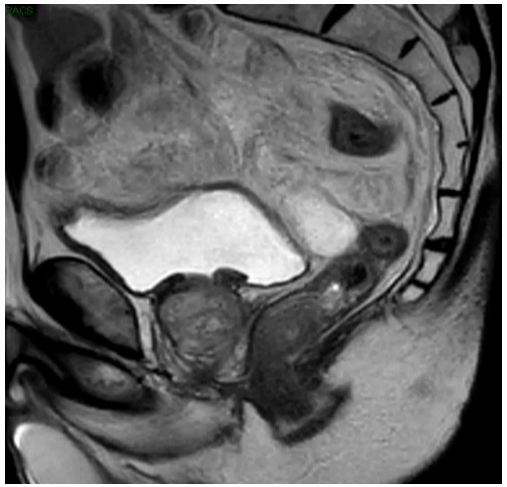
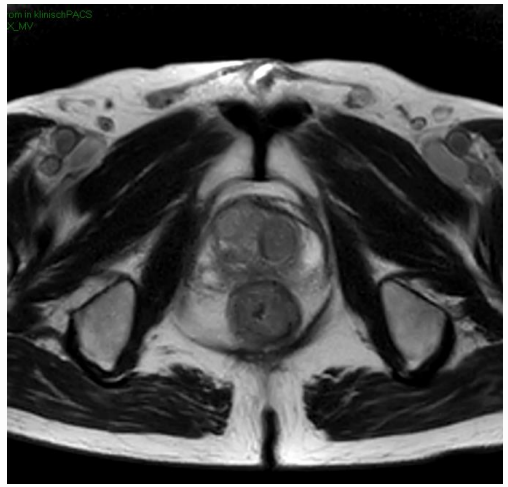


Appelt 2015 Lancet Oncology



Prediction of response

- No single reliable predictive factor
- Multiparameter predictive models will improve
  - Clinical - Biomarkers from biopsy - Radiomics

- Patient A: 70% chance CR -> ChRT
- Patient B: 15% chance CR -> surgery

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Organ Preservation - W&W

- Feasible
- Larger tumors: 15-20%
- Smaller tumors: 50%
- With good selection/follow up
  - Local regrowth 15-20%
  - Early detection regrowth – salvage
- No apparent influence on survival (?)
- High interest of patients

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Organ Preservation

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