XXII ASSEMBLEA MaNGO MILANO

STANDARD TREATMENTS AND NEW DIRECTIONS IN GYNAECOLOGICAL CANCERS

MILANO June 26th-29th, 2025

Responsabili Scientifici:
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MaNGO

Hadron therapy: Clinical cases

ROBERTA LAZZARI

Allowed indications

Close or positive margins after surgery

Reirradiation in non metastatic patients

Conceptually

All conditions were reduction of low doses is usefull:

- Young women: reduction second tumors, spare fertility
- Nodal recurrences after previous radiation therapy
- Critical sites close to critical organs
- Radioresistent tumors

AM 39 YRS

2021 diagnosis of cervical squamous carcinoma Stage IIIC1
Chemo-radioterapy: 45 Gy su T and N0 ; **SIB** 53.4 Gy on N+
BRT 28 Gy in 4 fractions
Local persistence at 3 months→CT **Carboplatino - Paclitaxel** x 3 cicles RP
+ Bevacizumab x 5 cicles stop 1.2022
2.2022 Byopsies in narcosis : negative → Bevacizumab in manintenance then stop due to **vescico-vaginal fistula**
6. 2022 indication to exenteratio (refused), nephrostomy
10.2022 **Cemiplimab** x 3 cicles → 12.2022 RMN: local progression over the left latero pelvic tract. Suspect of lombo aortic and mediastinal nodes. **Sarcoidosis alla PET.**
1-6.2023 8 cicles **carboplatino + paclitaxel** (RP after 3 cicles)
→ RMN fibrotic tissue vs presistent disease along the latero pelvic tract, mesorectal fascia and left parametrium. No other sites. At PET sarcoidosis.

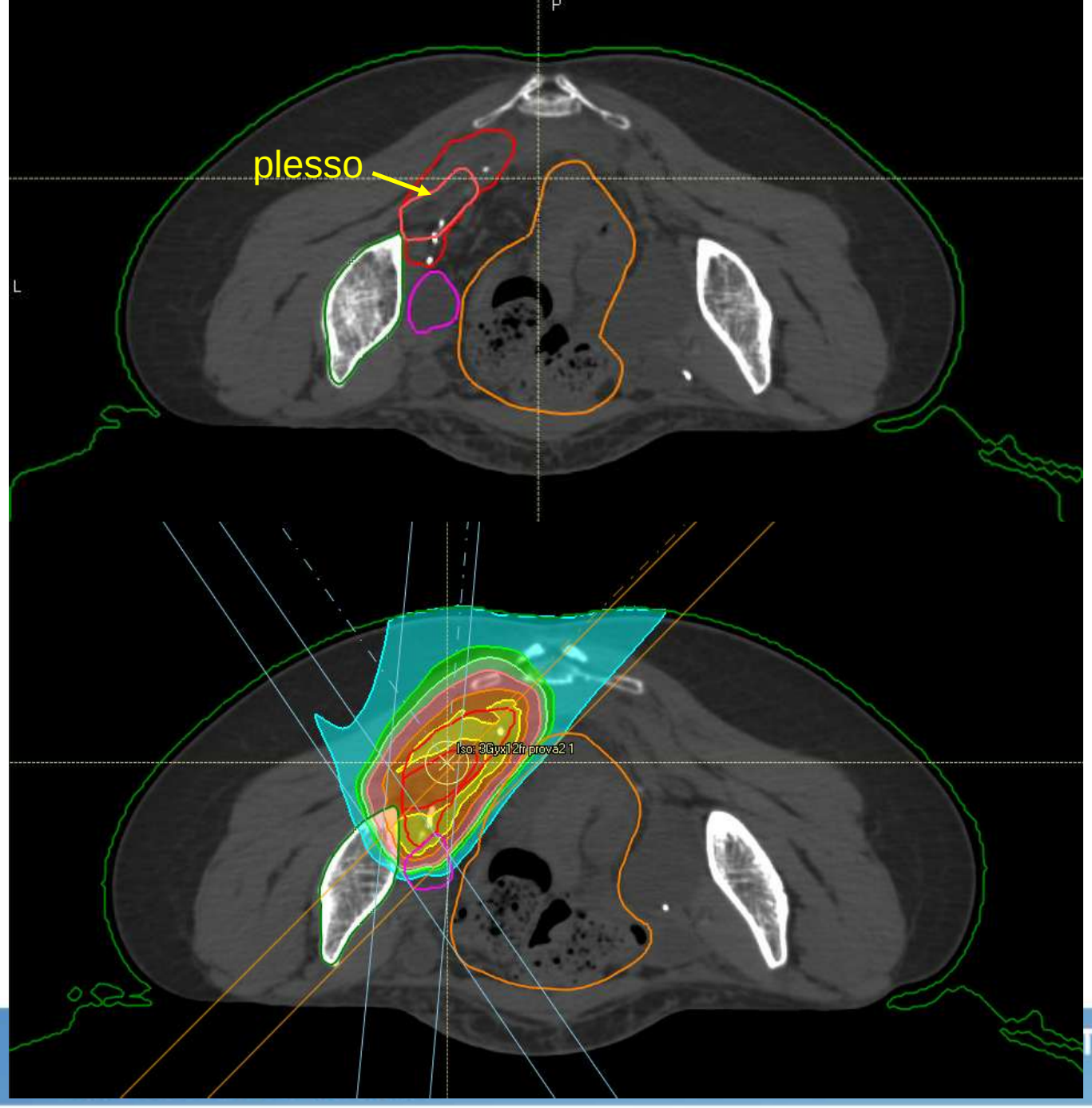
PELVIC TOTAL EXENTERATIO + 2/3 SUPERIOR COLPECTOMY–RADICAL CISTECTOMY - RECTO-SIGMA RESECTION + T-T LOW ANATOMOSIS (JPOUCH COLICA) - PELVIC LINFADENECTOMY - RADICALIZATION OF LEFT PELVIC WALL - COLOSTOMY – URETERO ILEO CUTANEOUS STOMIA SEC. BRICKER –ILEAL L-L MECHANICAL ANASTOMOSIS –LEFT **LATEROPELVIC OMENTAL J –FLAP, SURGICAL CLIPS**

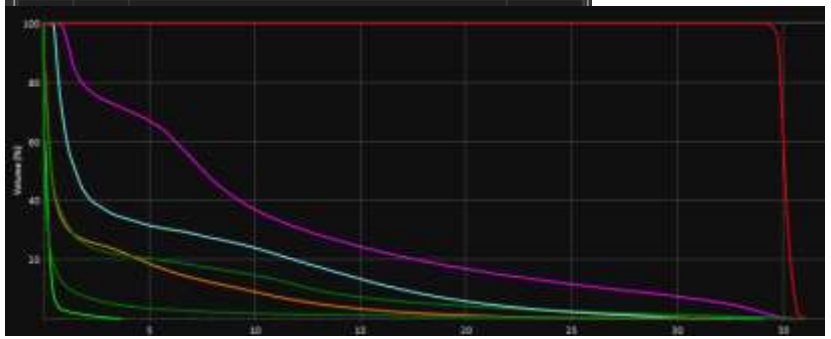
INTRAOP SPECIMEN POSITIVE AT LEFT PARAMETRIUM

FINAL SPECIMEN: NEGATIVE AT PARAMETRIUM, CONFIRMED **RESIDUAL TUMOR AT THE CERVIX PROXIMAL TO PARAMETRIAL LATERAL RESECTION MARGIN, PERINEURAL INFILTRATION IN PROXIMITY OF LEFT PARAMETRIUM**
ypT2ypN0

AT SURGERY METHALLICAL CLIPS POSITIONING AND OMENTAL J FLAP OVER THE POSTERIOR LATEROPLEVIC WALL

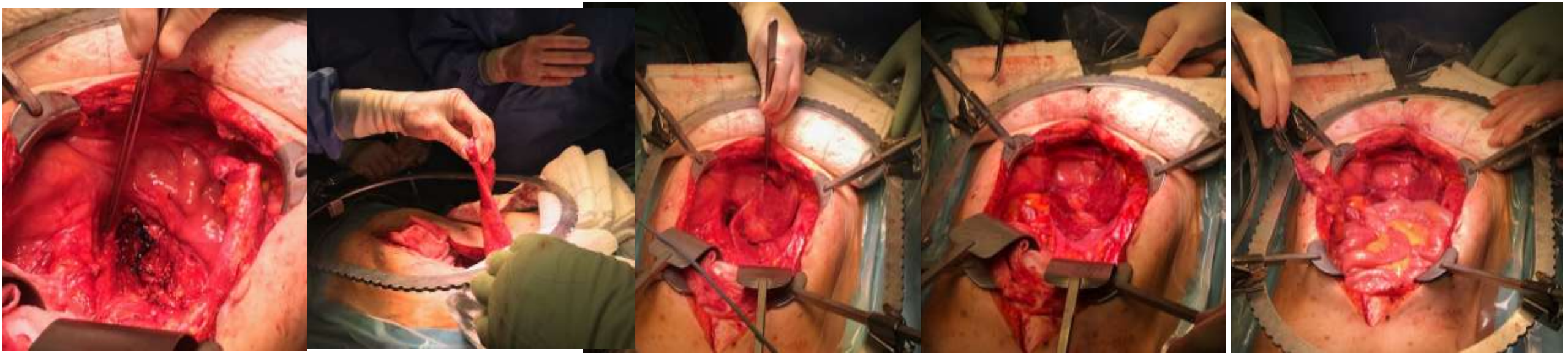
INDICATION TO PROTON TERAPY ON POSTERIOR LATERO PELVIC WALL (REMEMBER IORT!)



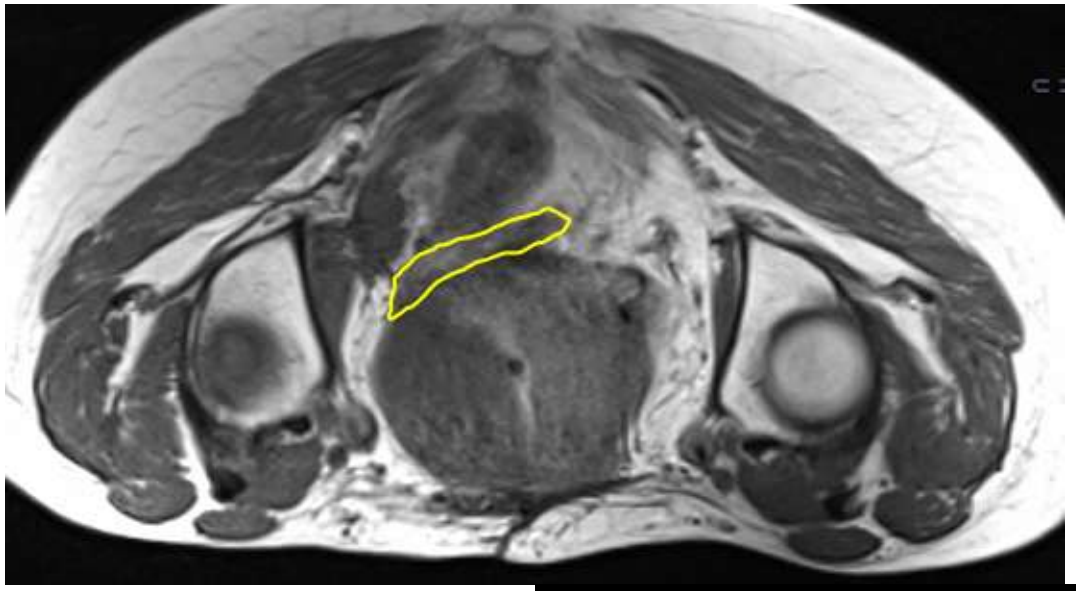


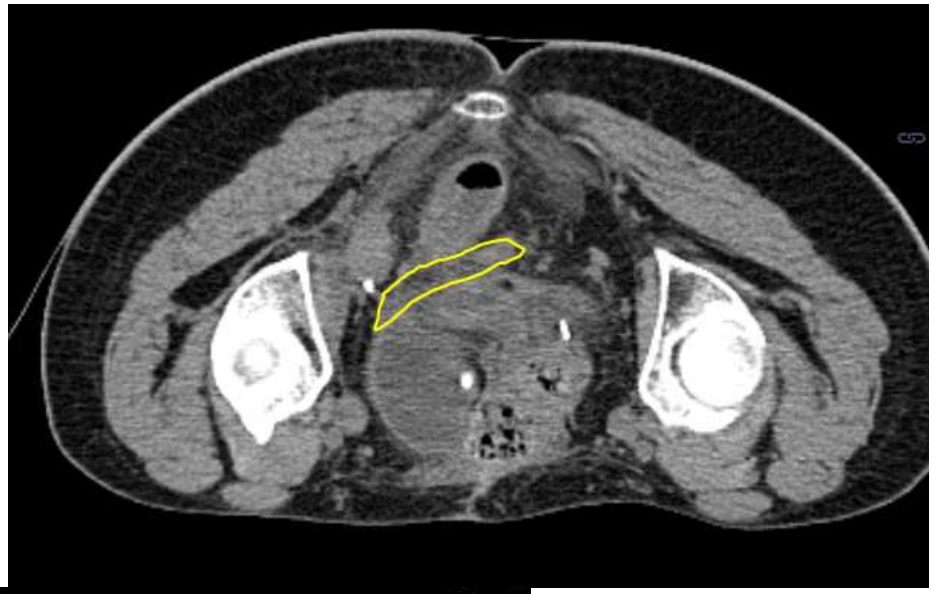
CLIPS TO IDENTIFY THE TARGET
PREVIOUS RT TREATMENT PLANNINGS
PRONE POSTIONING
RECONSTRUCTIONS OF PREVIOUS DOSES
CONSIDERING THE COMPLETELY DIFFERENT ANATOMY
3 Gy x 10 fractions

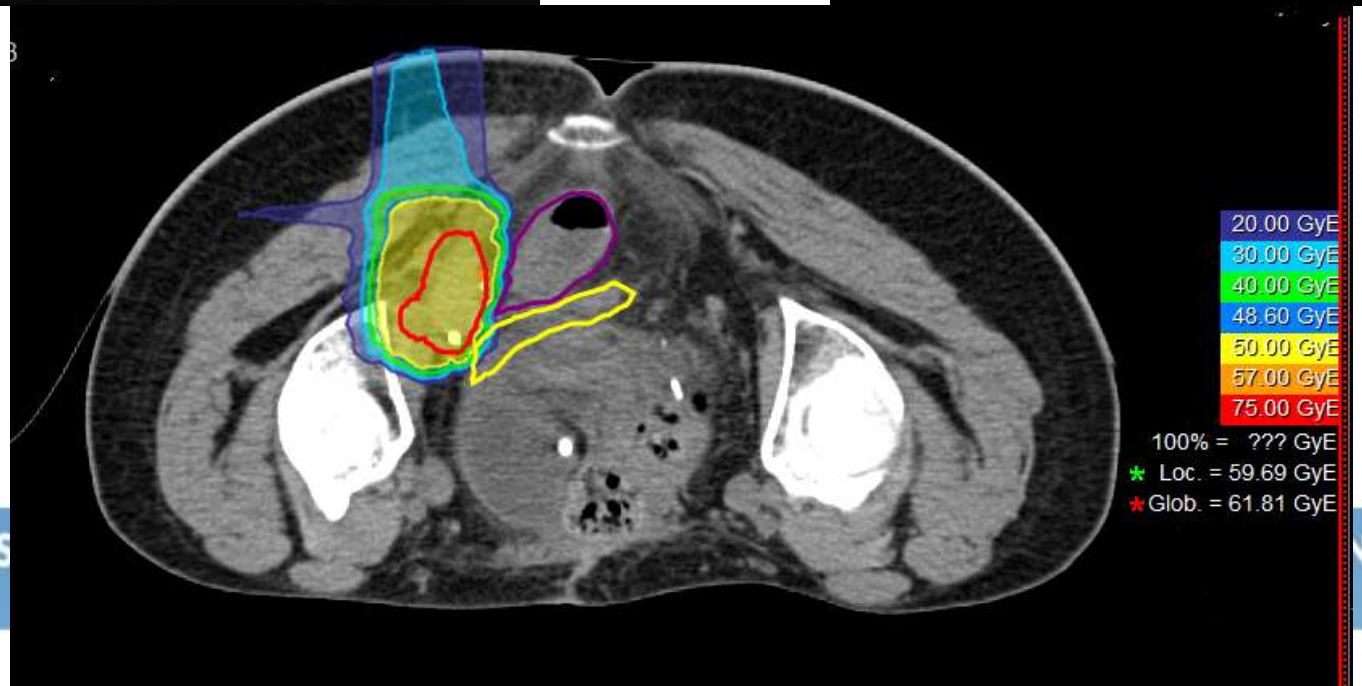
Surgical spacer positioning

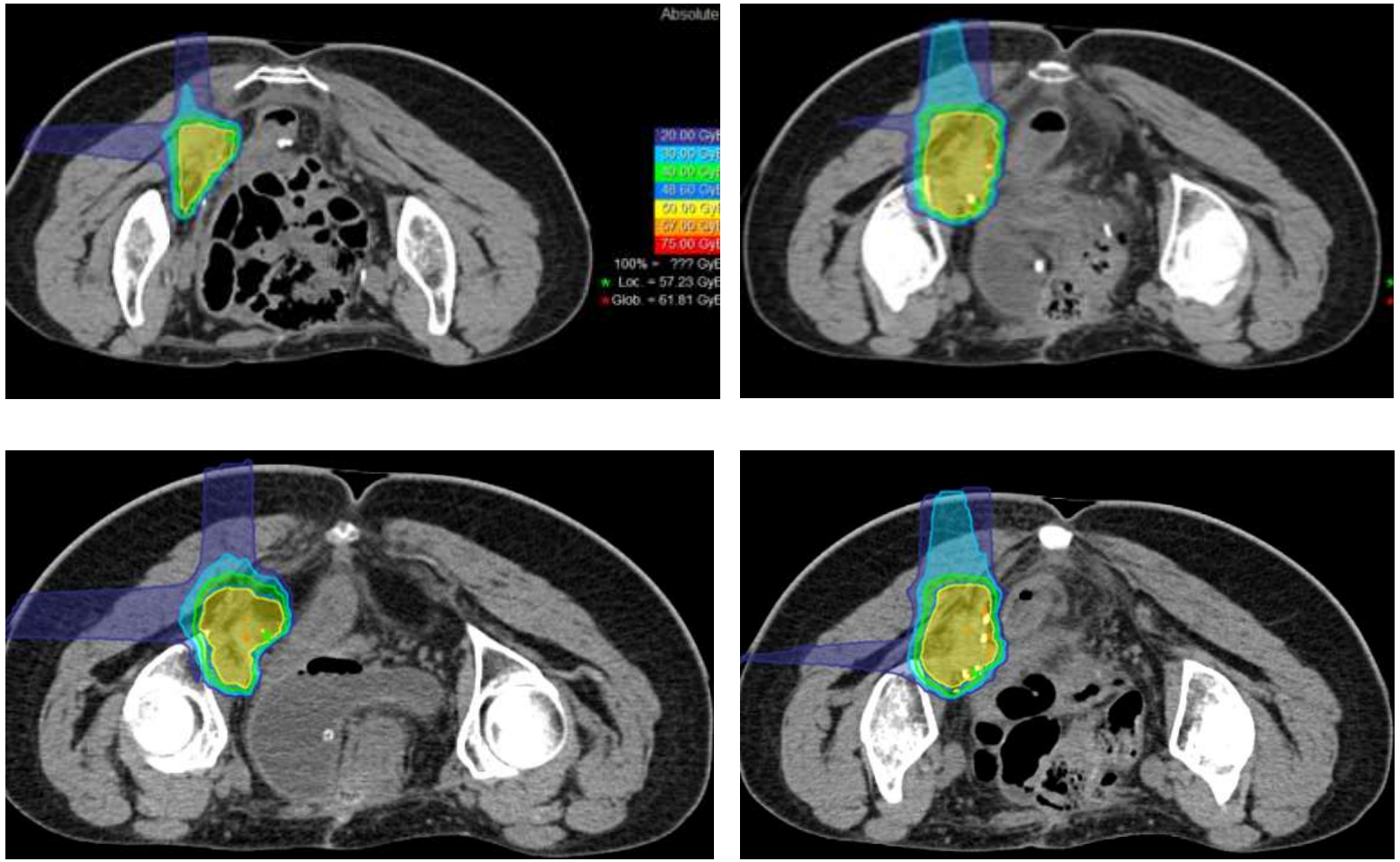


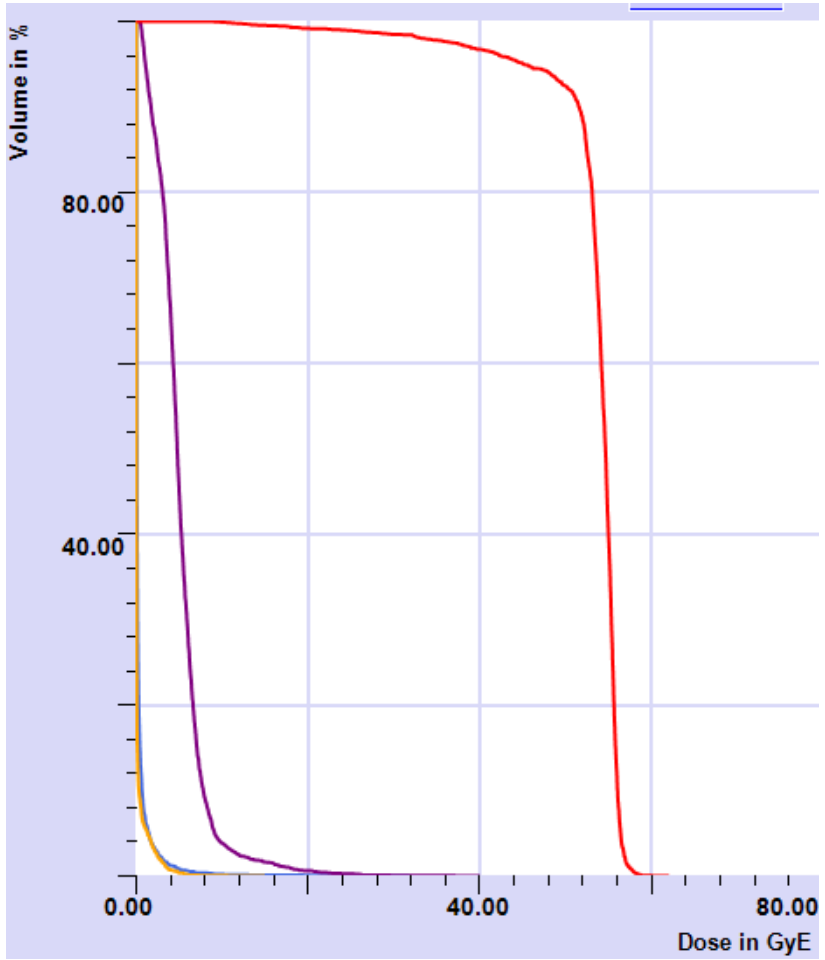
LAPAROTOMY: RECTO-SIGMA RESECTION, TERMINAL COLOSTOMY IN FIS, PARTIAL TUMORECTOMY, RECTO-ABDOMINAL RIGHT MUSCLE POSITIONING OVER THE RIGHT PELVIS






20.00 GyE
30.00 GyE
40.00 GyE
48.60 GyE
50.00 GyE
57.00 GyE
75.00 GyE
100% = ??? GyE
Loc. = 59.69 GyE
Glob. = 61.81 GyE


Absolute
100% = ??? GyE
Loc. = 57.23 GyE
Glob. = 61.81 GyE


Volume in %
80.00
40.00
0.00
40.00
80.00
Dose in GyE

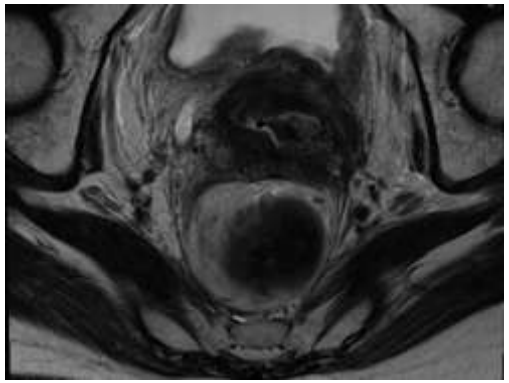
RE 48 YRS

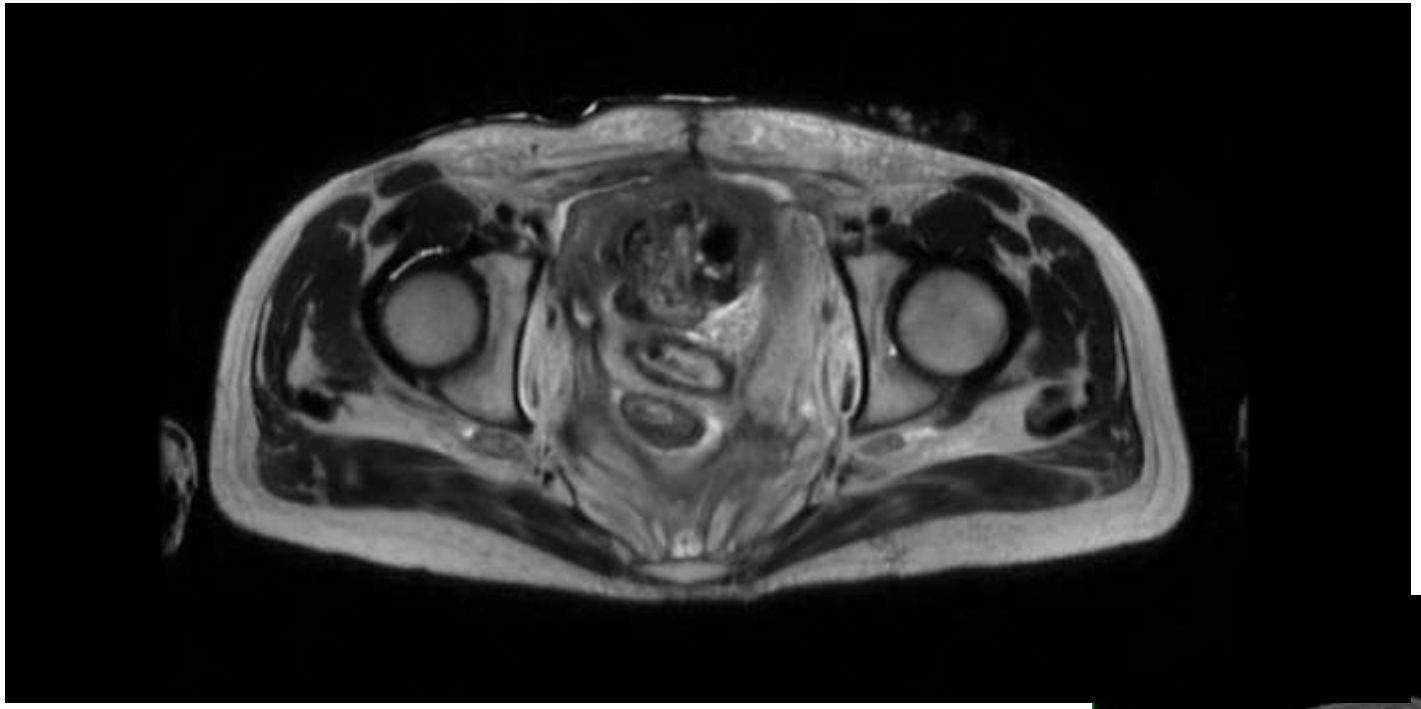
3.2023 diagnosis of squamous cervical cancer Stage IB3
5-6-2023 **EBRT 45 Gy + BRT 30 Gy** concomitant to platinum based chemotherapy (doses slightly low)
2.2024 local recurrence → 2 cicles **carboplatin + taxol + pembrolizumab → vescico-vaginal fistula**
6.2024 narcosis and biopsies: confirmed squamous recurrence

Exenteratio with 2/3 superior colpectomy + radical cystectomy + recto sigma resection with ultra low T-T anastomosys + cistectomy with Bricker + **neovagina** and omental j flap + **recto abdominal muscle displacement on the left pelvis**

FINAL SPECIMEN: …..MINIMAL STROMAL FREE MARGIN 3 MM AT THE LEFT PARACOLPIUM ypT2 ypN0

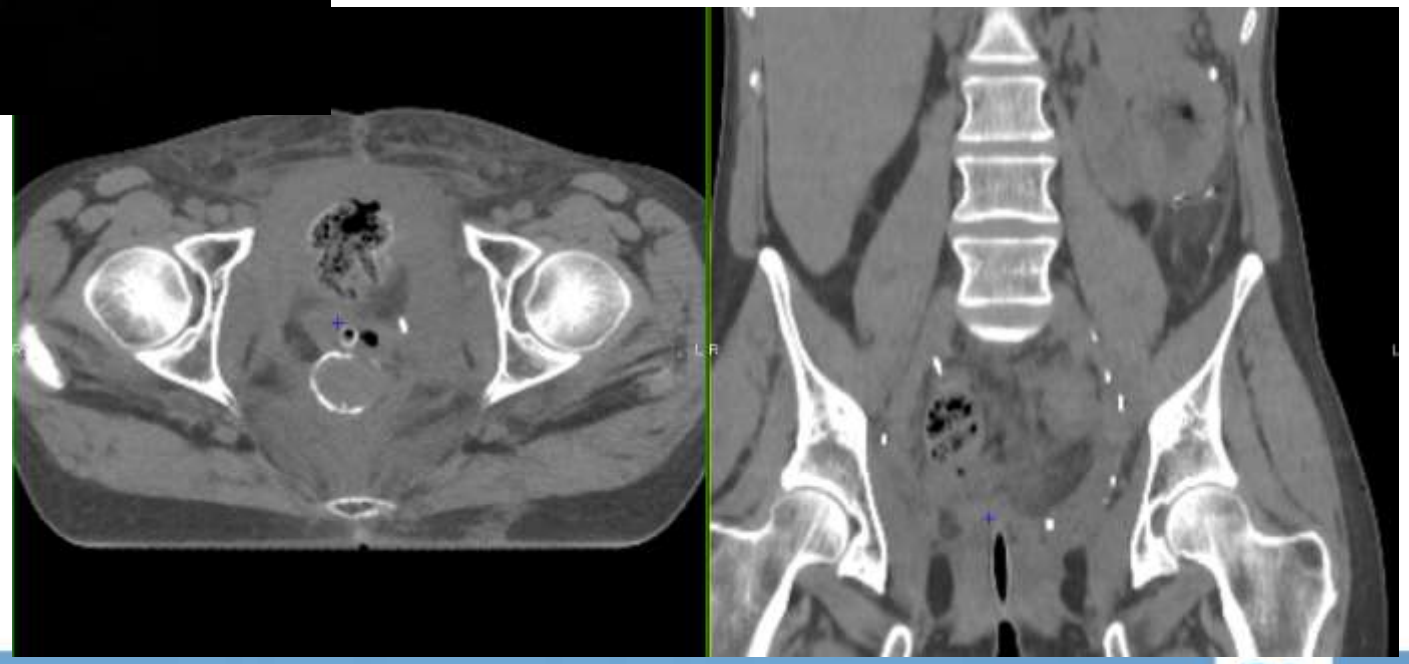
INDICATION TO PROTON TERAPY AT PARACOLPIUM (REMEMBER IORT!)

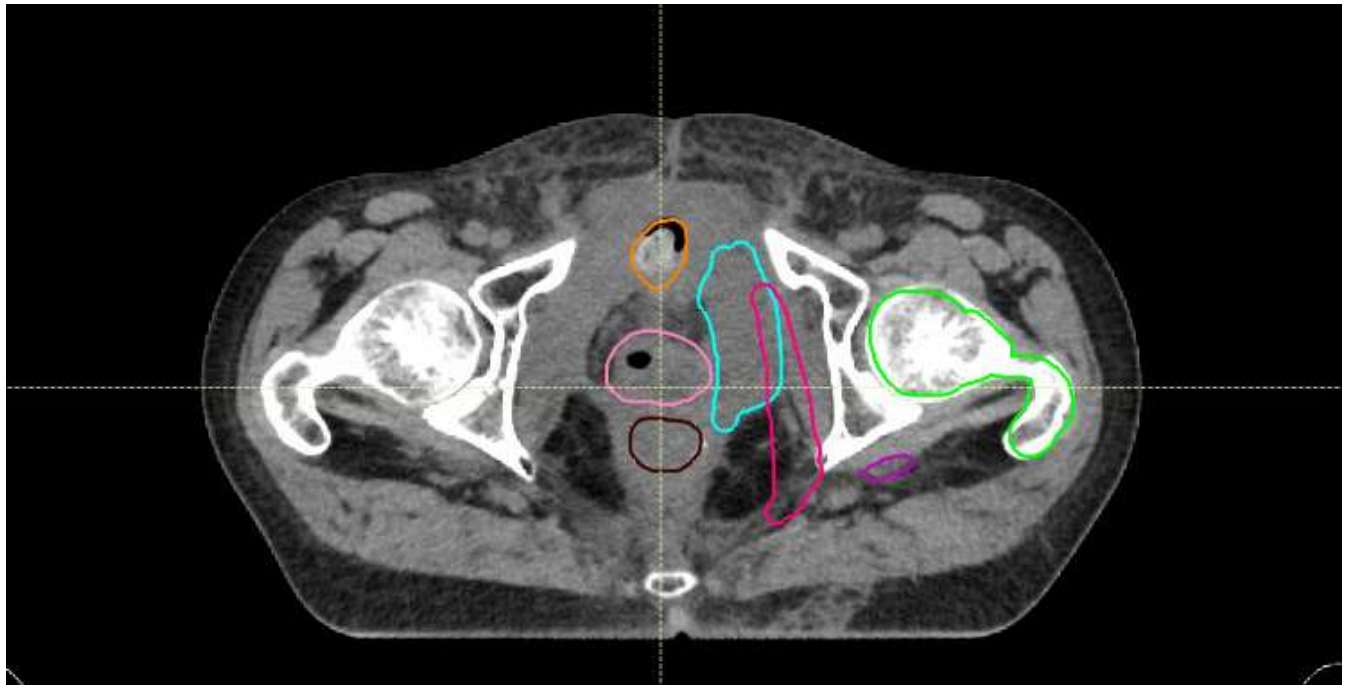


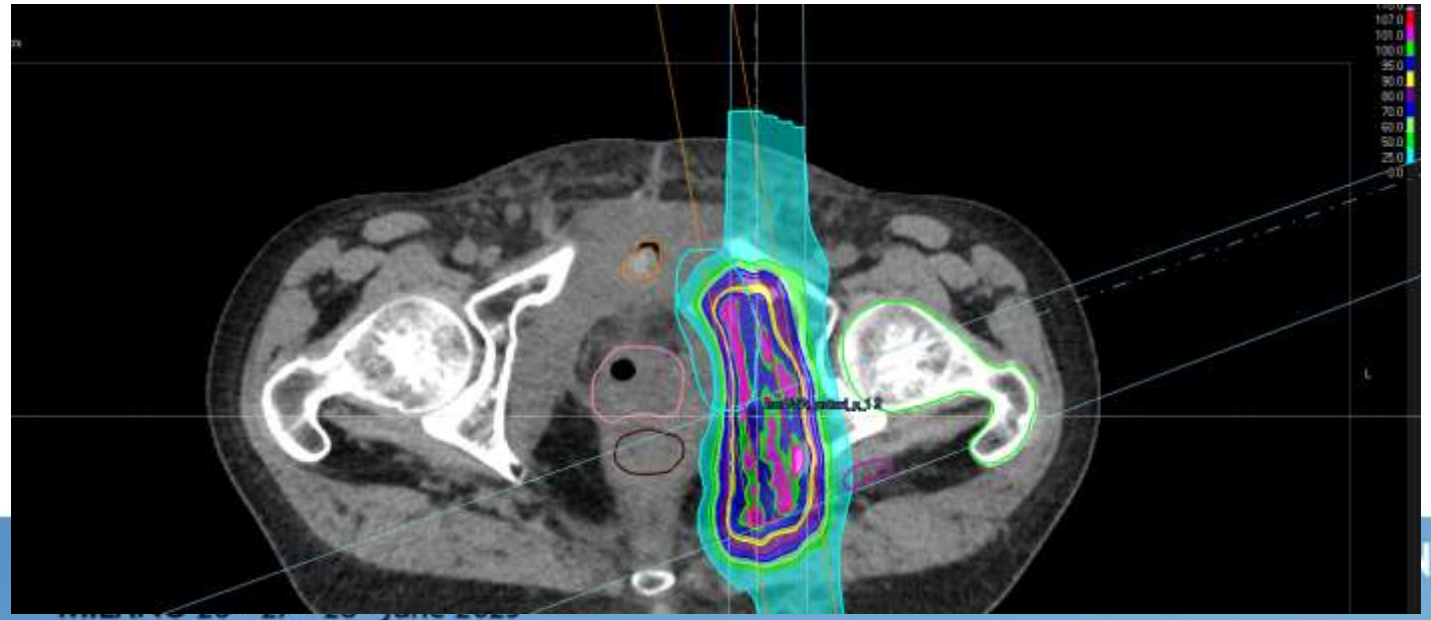


MRI FUSION

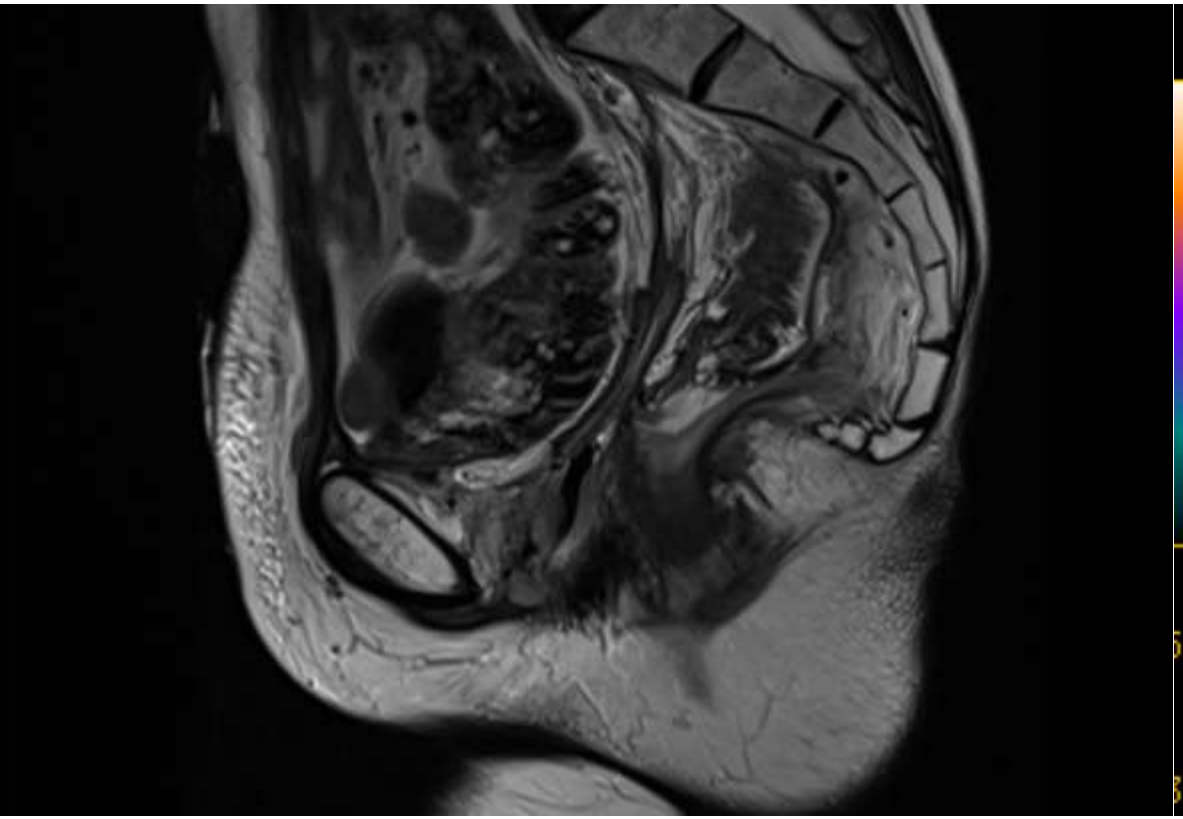
CT SIMULATION (NO MDC)
CLIPS
NEOVAGINA
LOW RECTAL ANASTOMOSIS

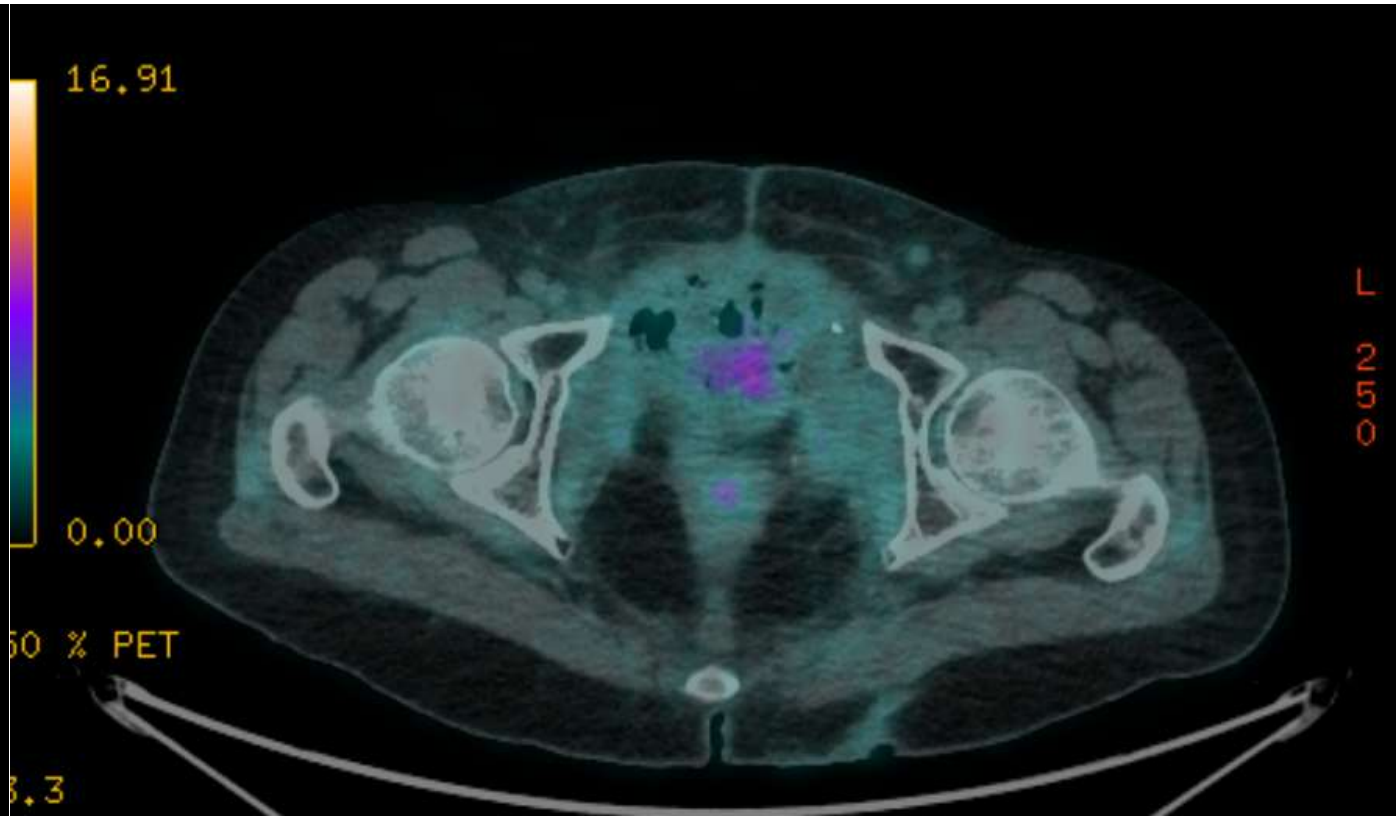






SO DIFFICULT TO DEFINE THE TARGET
5 Gy x 6 frazioni
SUPINE POSITIONING

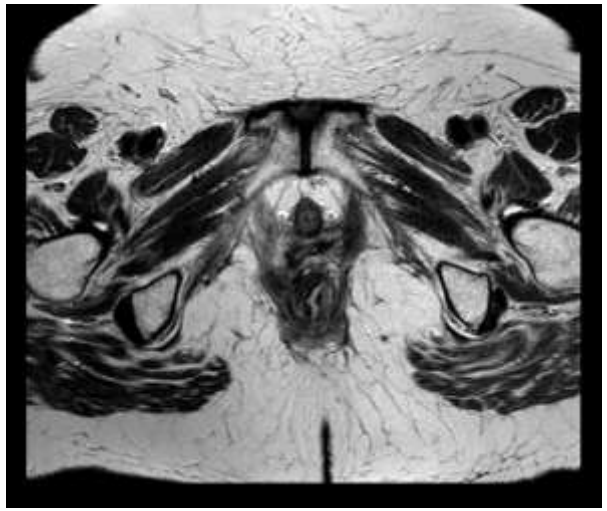




NEGATIVE AT FOLLOW UP: SHORT VAGINA

CL 66 YRS

2021 SQUAMOUS VAGINAL TUMOR TREATED WITH CHEMO RADIATION 50.4 Gy + BOOST 19.8 Gy
2023 LOCAL RECURRENCE CONFIRMED AT NARCOSIS WITH BIOPSIES

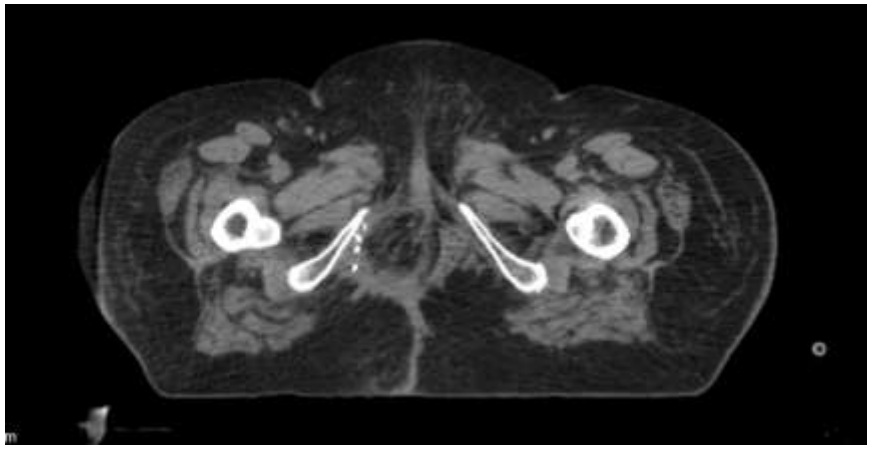


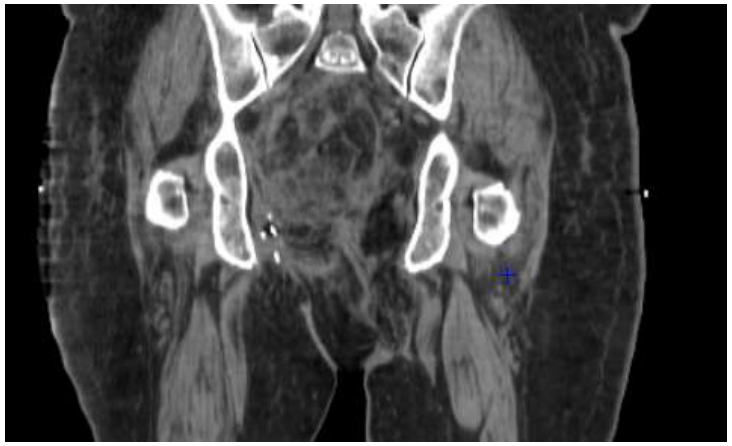
TOTAL EXENTERATIO WITH BRICKER AND DEFINITIVE COLOSTOMY, CLIPS POSITIONING

FINALE SPECIMEN:
…POSITIVE RIGHT LATERAL MARGIN AND VAGINAL MARGIN

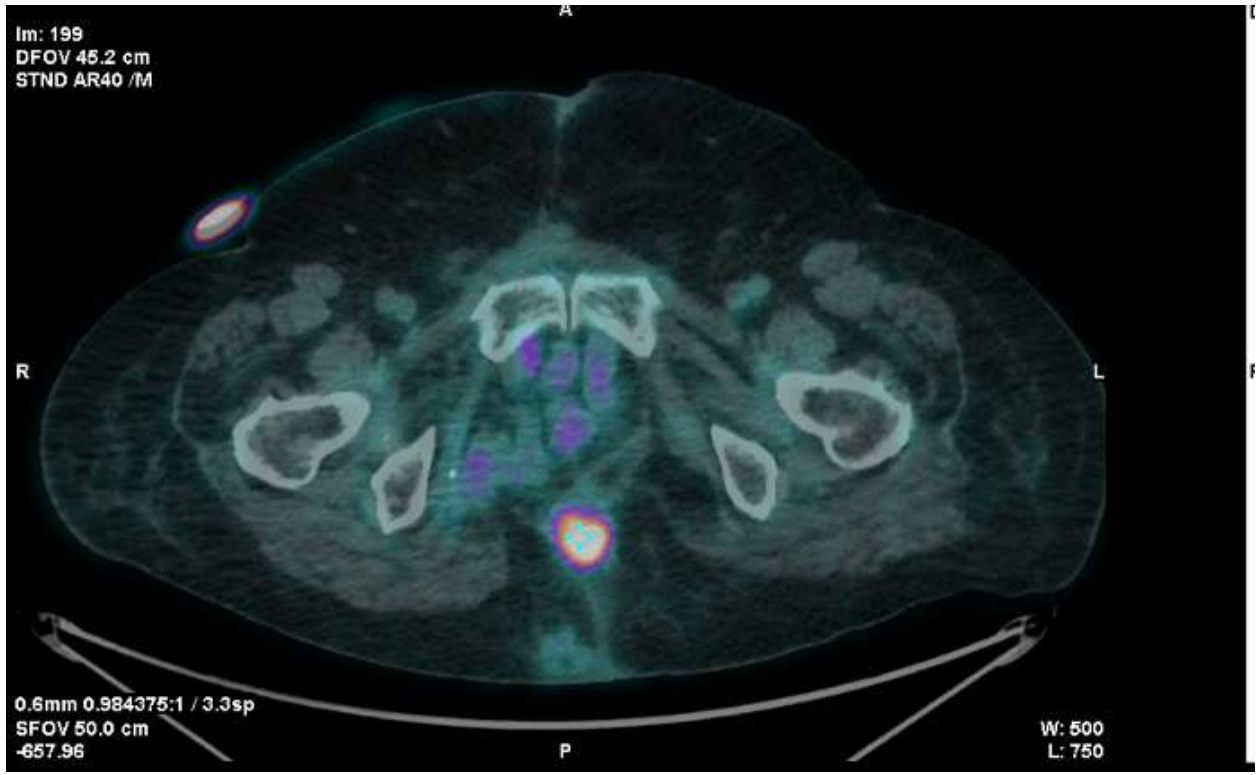
INDICATION TO PHONTON BEAM TERAPY

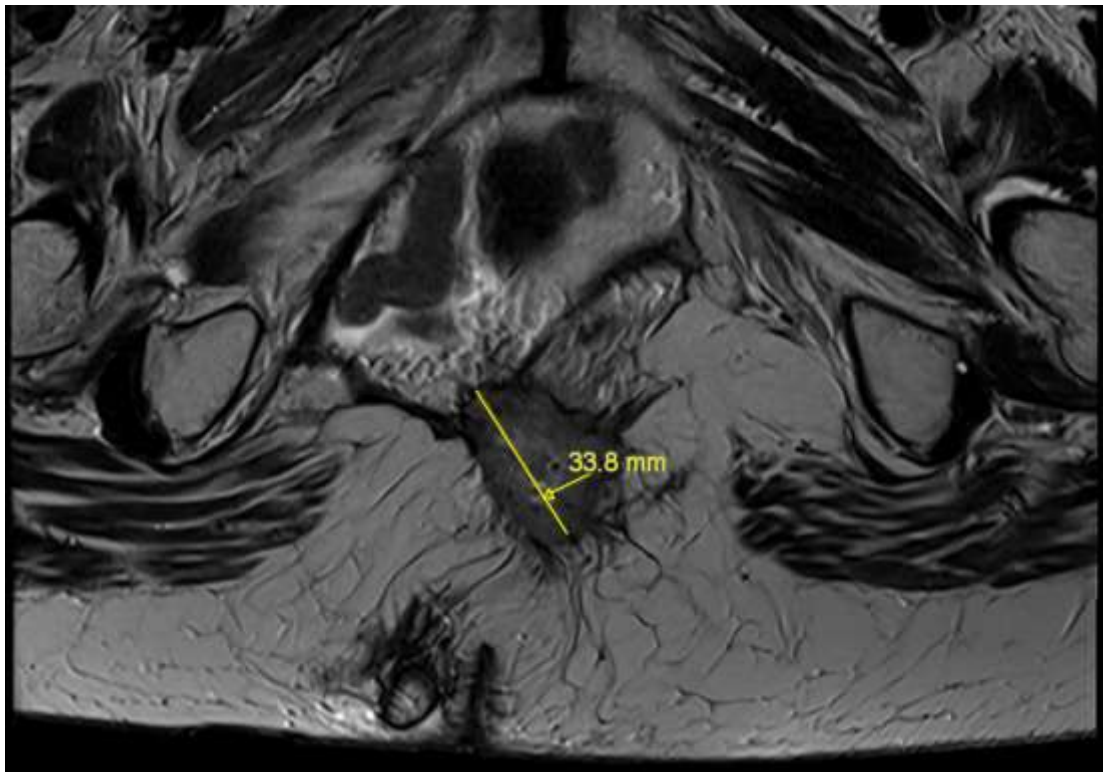
6 Gy x 5 fractions



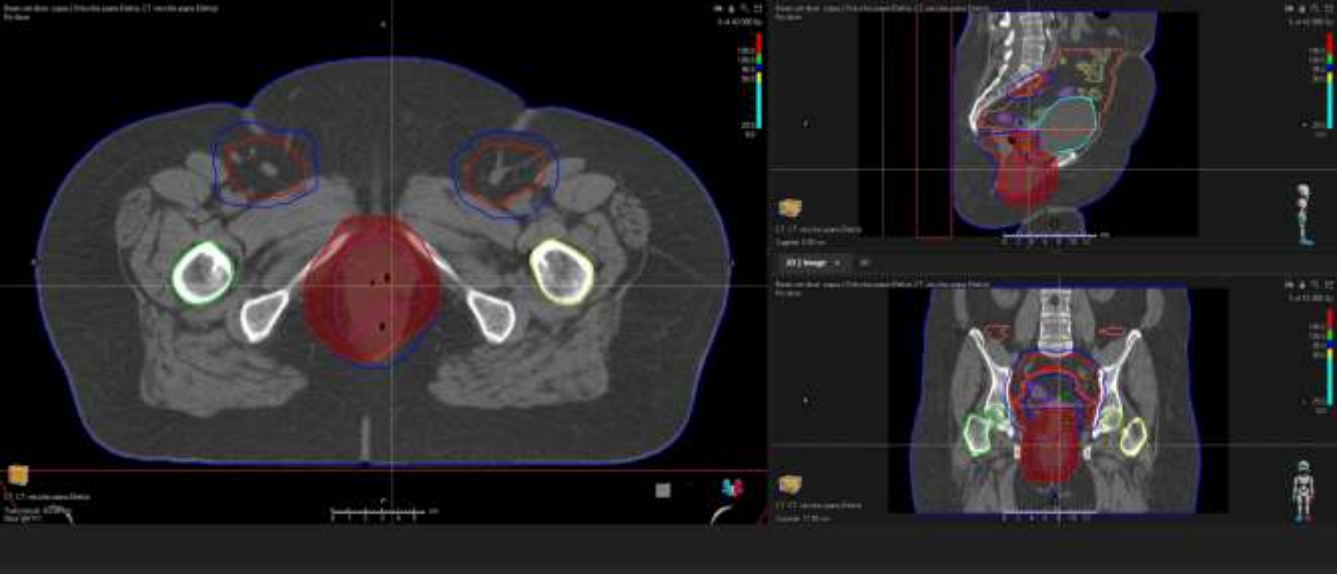


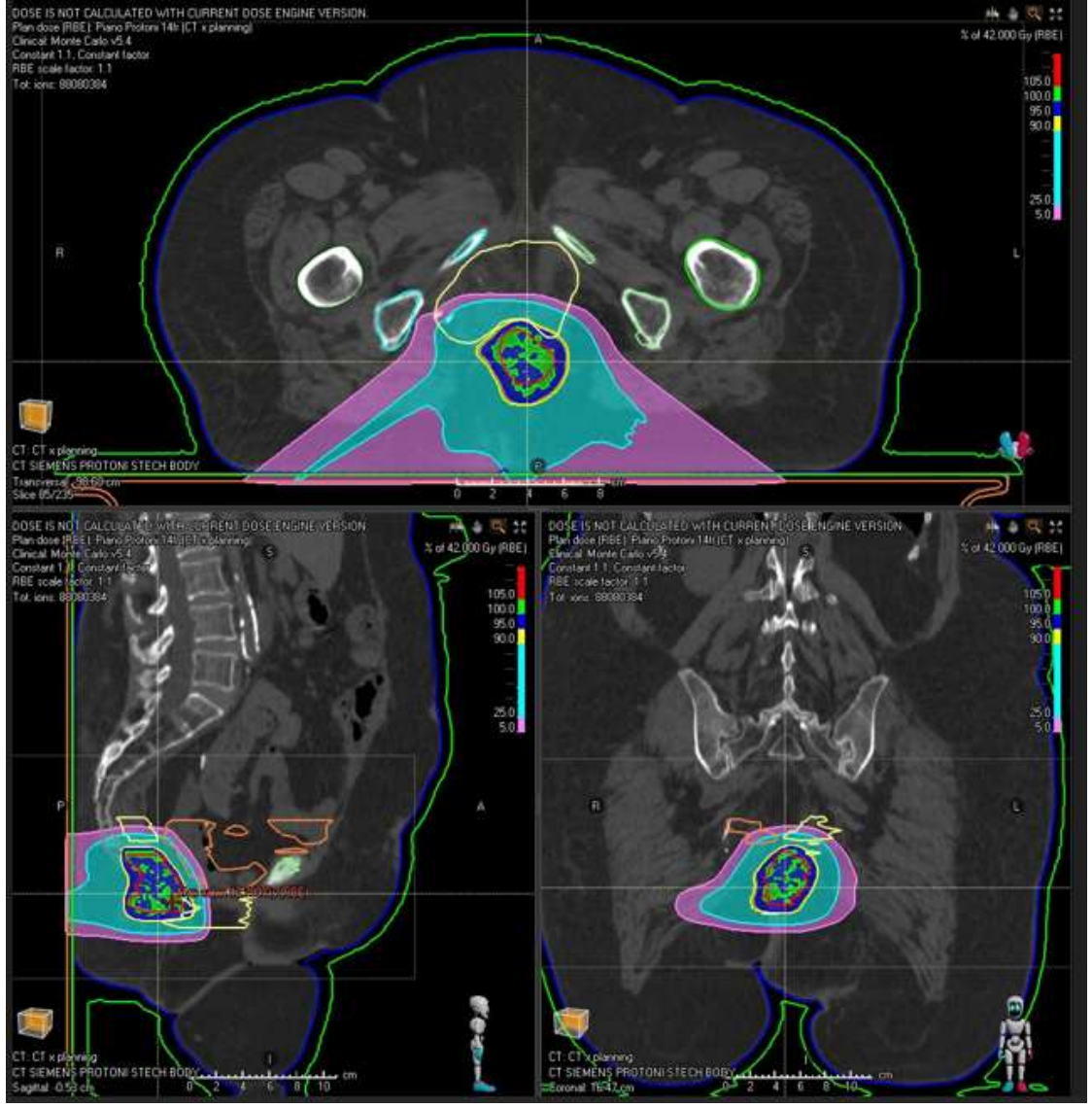
2024 RECURRENCE → BIOPSY

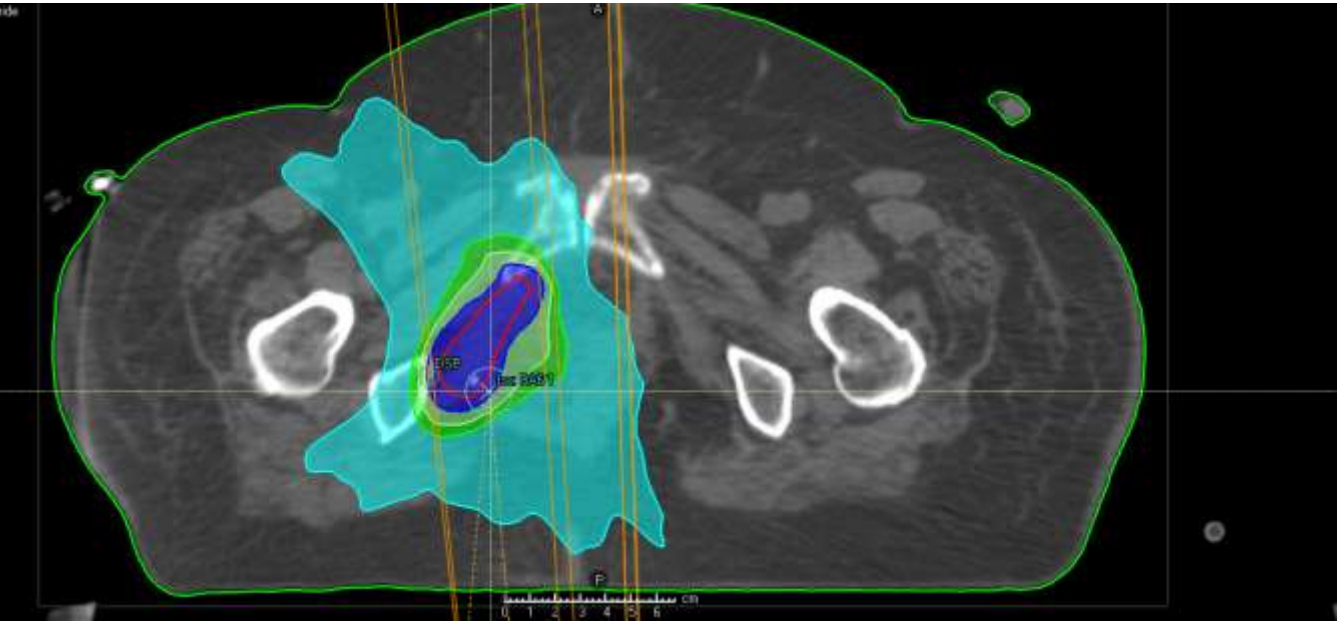




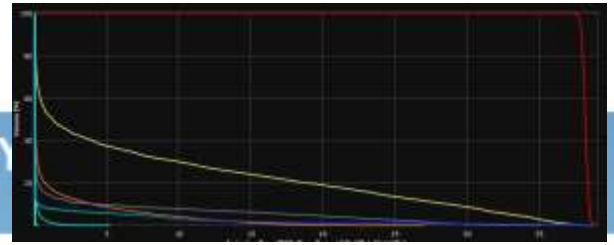
INDICATION TO PROTON TERAPY ON PRE COCCIGEAL LESION



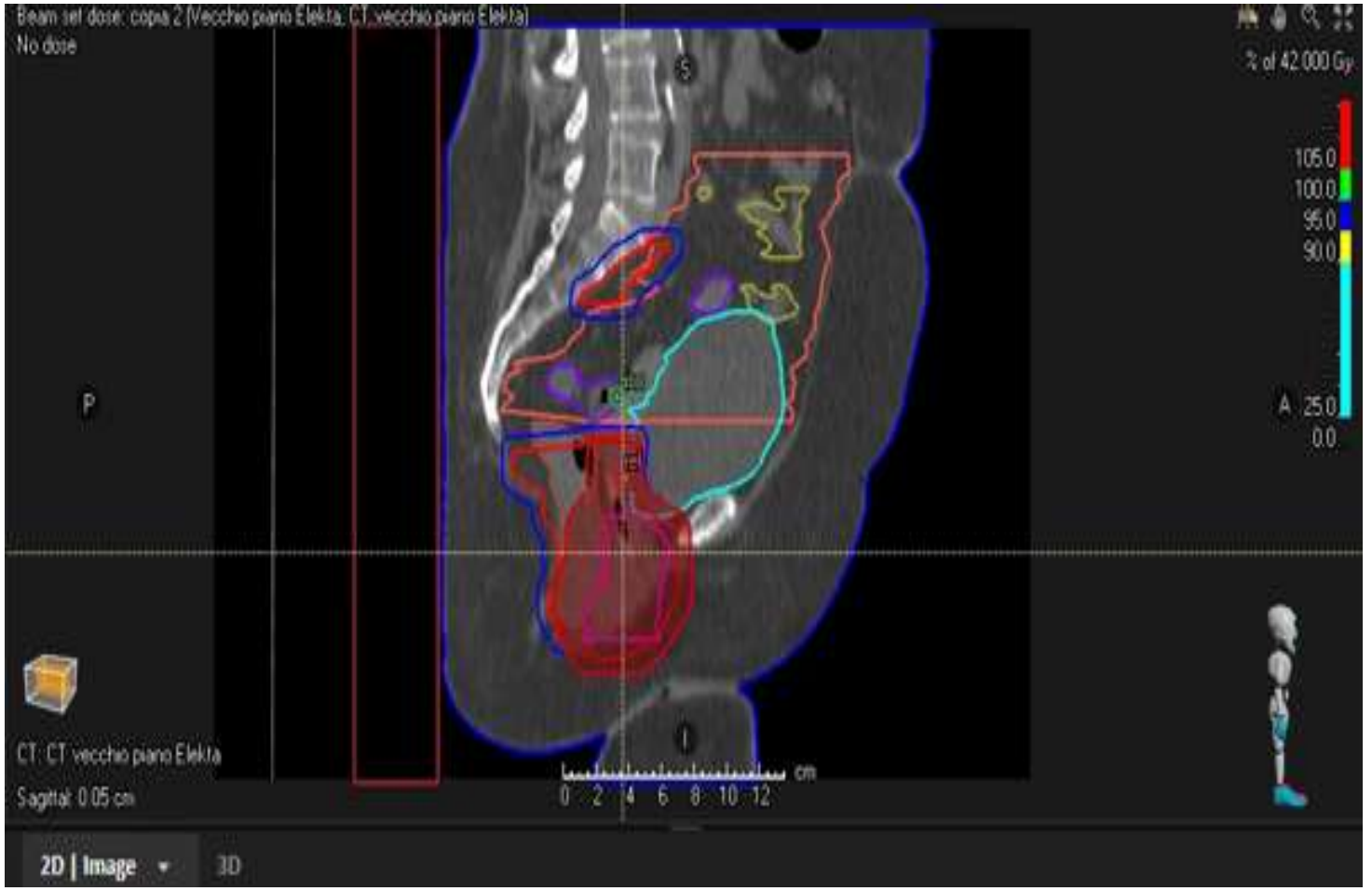

DOSE IS NOT CALCULATED WITH CURRENT DOSE ENGINE VERSION.
Plan dose [RBE] Piano Protoni 14lr [CT x planning]
Clinical Monte Carlo v5.4
Constant 1.1, Constant factor
RBE scale factor 1.1
Tot. ions: 88080384
% of 42.000 Gy (RBE)
105.0
100.0
95.0
90.0
25.0
5.0
CT: CT x planning
CT SIEMENS PROTONI STECH BODY

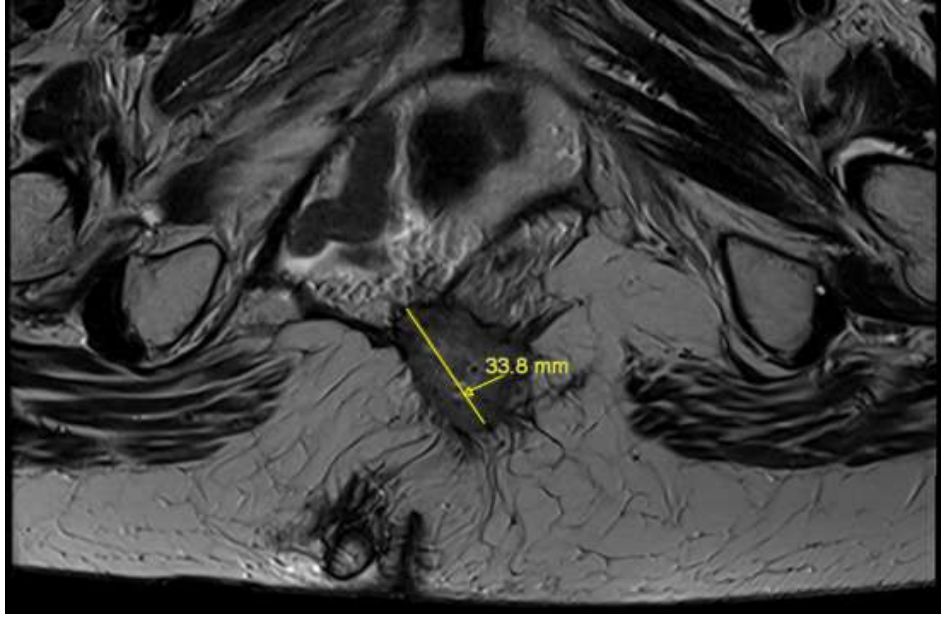


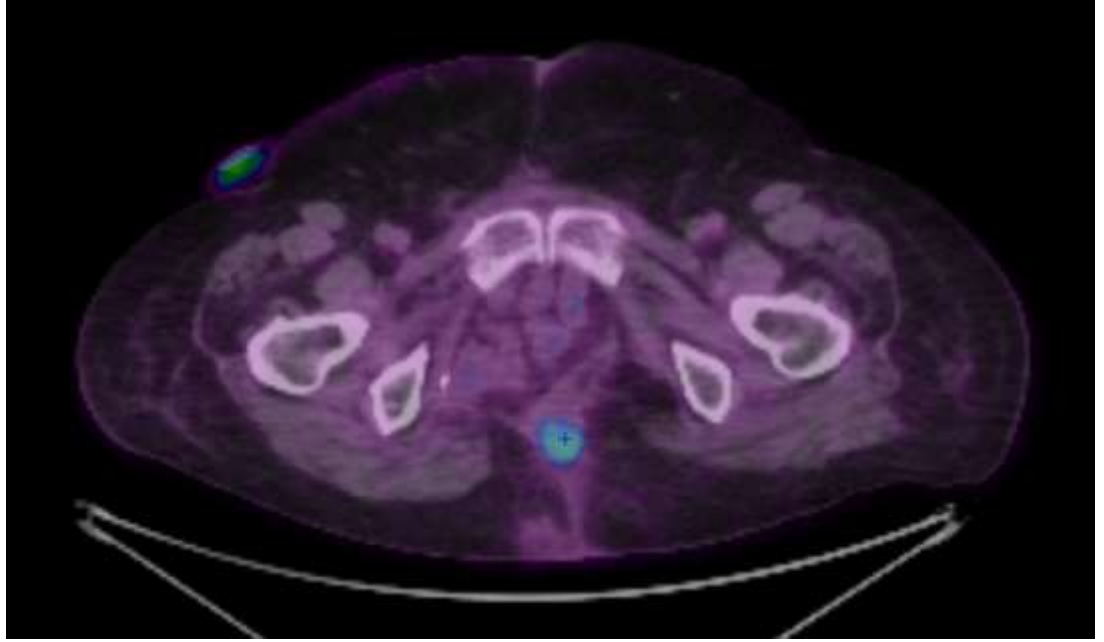
DOSE IS NOT CALCULATED WITH CURRENT DOSE ENGINE VERSION
% of 42.000 Gy (RBE)
105.0
100.0
95.0
90.0
25.0
5.0
CT: CT x planning
CT SIEMENS PROTONI STECH BODY

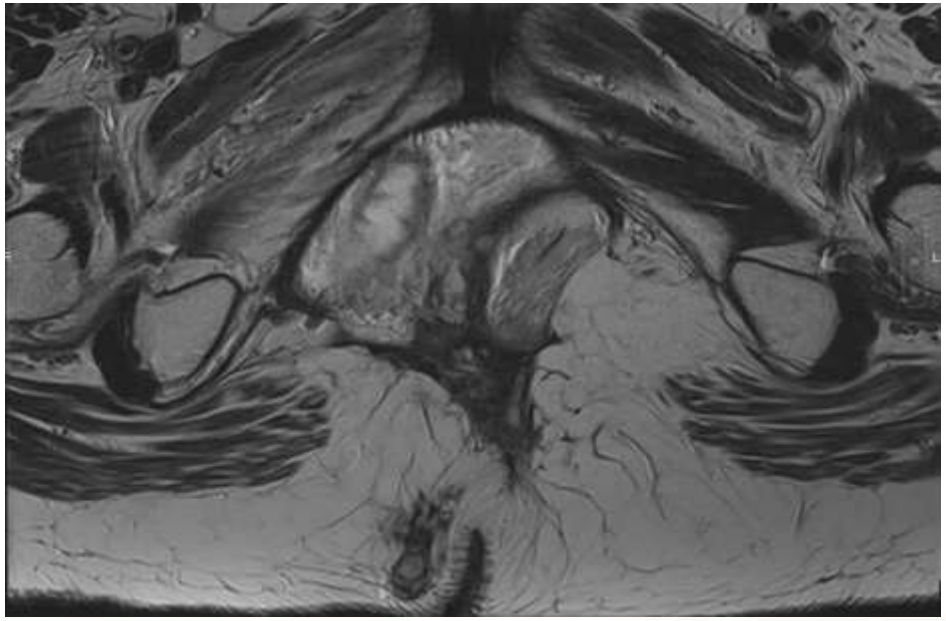



DOSE IS NOT CALCULATED WITH CURRENT DOSE ENGINE VERSION
% of 42.000 Gy (RBE
105.0
100.0
95.0
90.0
25.0
5.0
P
A
CT: CT x planning
CT SIEMENS PROTONI STECH BODY
Sagittal: 0.59 cm
0 2 4 6 8 10 cm

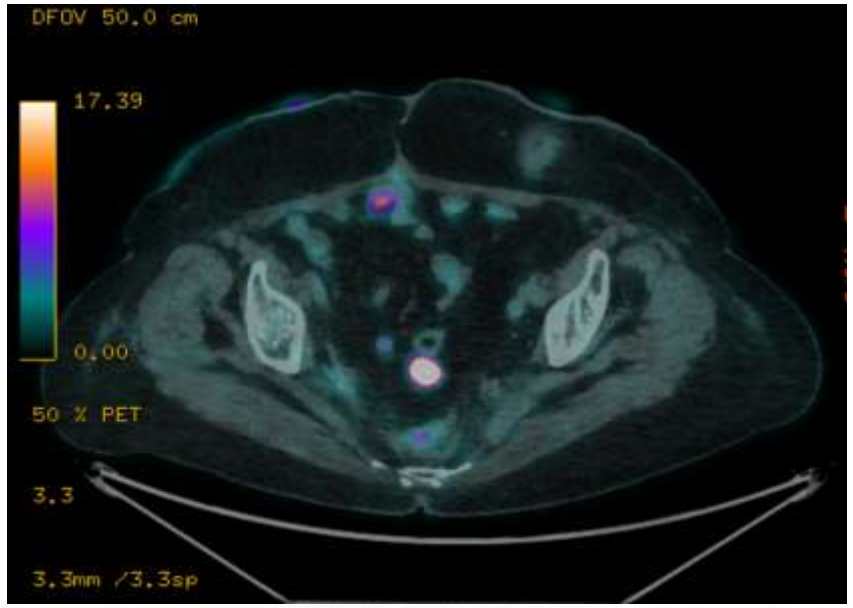

Beam set dose: copia 2 (Vecchio piano Elekta: CT_vecchio piano Elekta)
No dose
% of 42.000 Gy
105.0
100.0
95.0
90.0
A 25.0
0.0
P
CT: CT vecchio piano Elekta
Sagittal: 0.05 cm
0 2 4 6 8 10 12 cm
2D | Image
3D







NEGATIVE AT FUP



HMPK 29 YRS

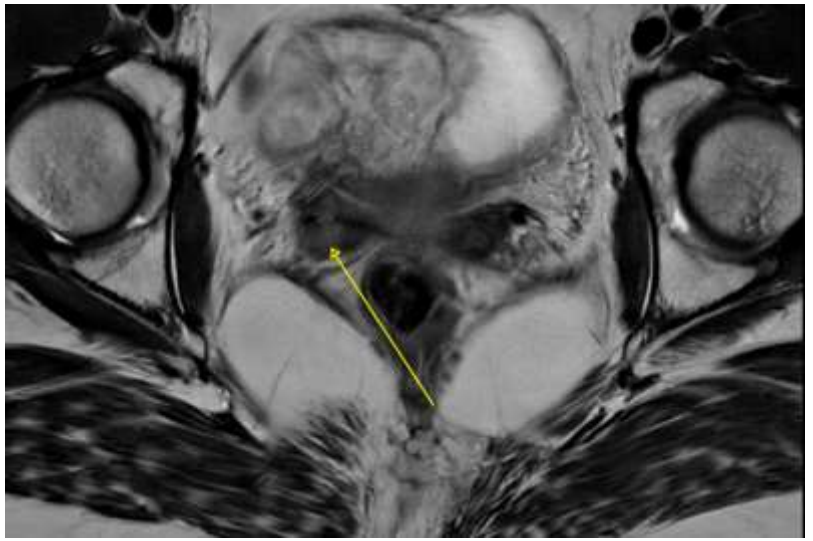
1.2023 DIAGNOSIS OF CERVICAL SQUAMOUS CARCINOMA STAGE IIB (MINIMAL PARAMETRIAL INVASION, T DIAMETER 3 CM)

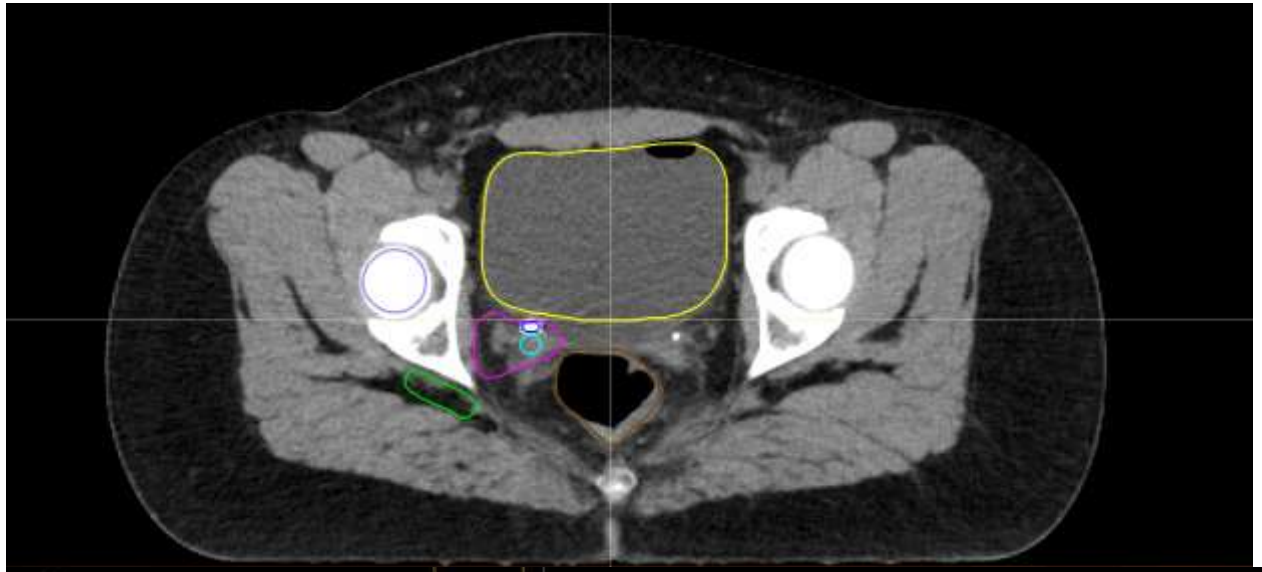
3 CICLES CHEMO CARBOPLATIN + TAXOL

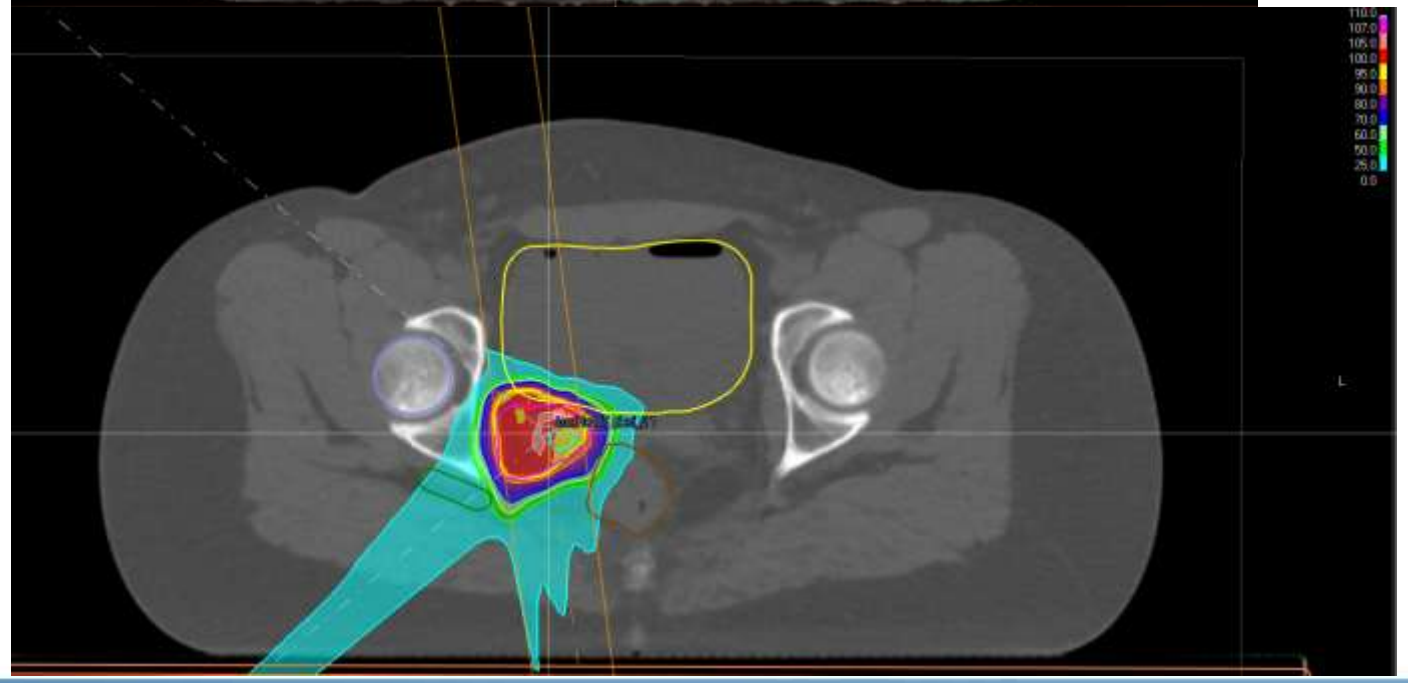
5.2023 HYSTERECTOMY TYPE B, SALPINGECTOMY, LINPHADENECTOMY
FINALE SPECIMEN: 17 MM DISEASE, NEGATIVE MARGINS, NEGATIVE NODES, LVSI +
7-9.2023 PELVIC RADIOTHERAPY UP TO 50.4 Gy

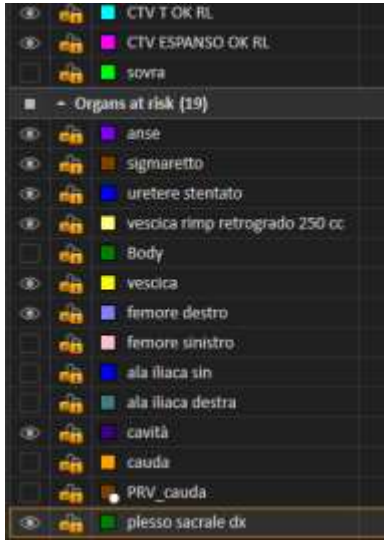
5.2024 RECURRENCE → BIOPSY → STENT

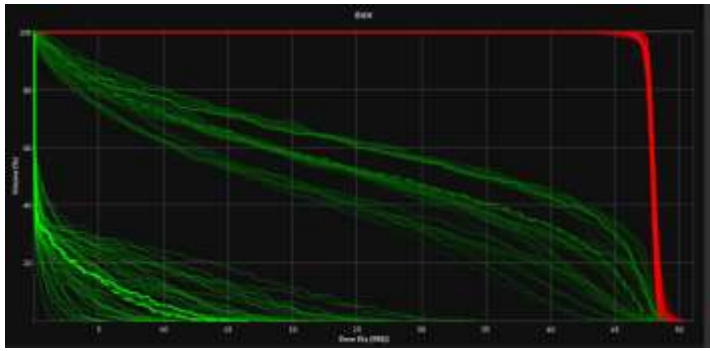
INDICATION TO PROTON TERAPY







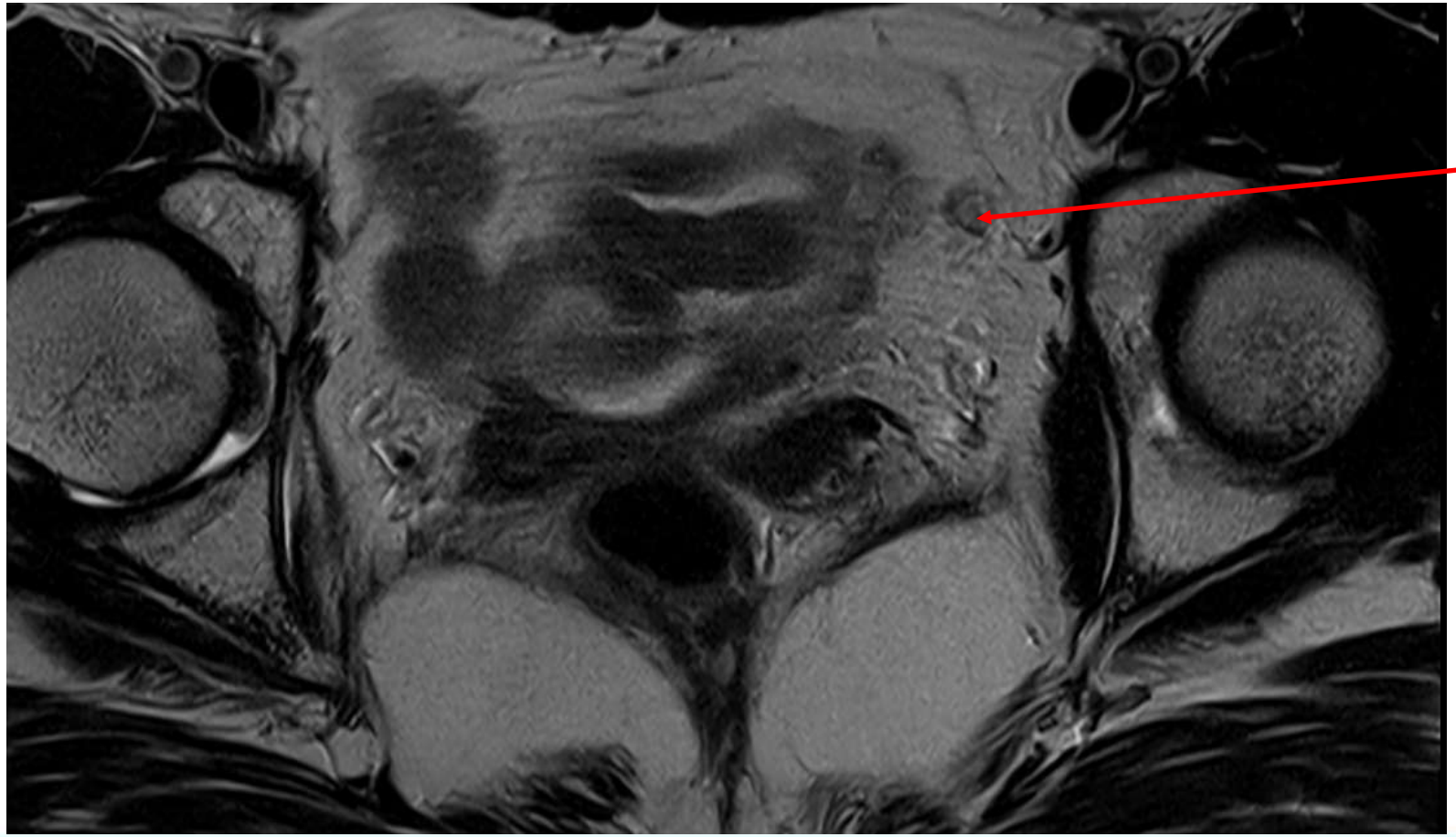




CURATIVE INTENT
SUPINE POSITINING
BLADDER FILLING AT EACH FRACTION
ENEMA IF NECESSARY

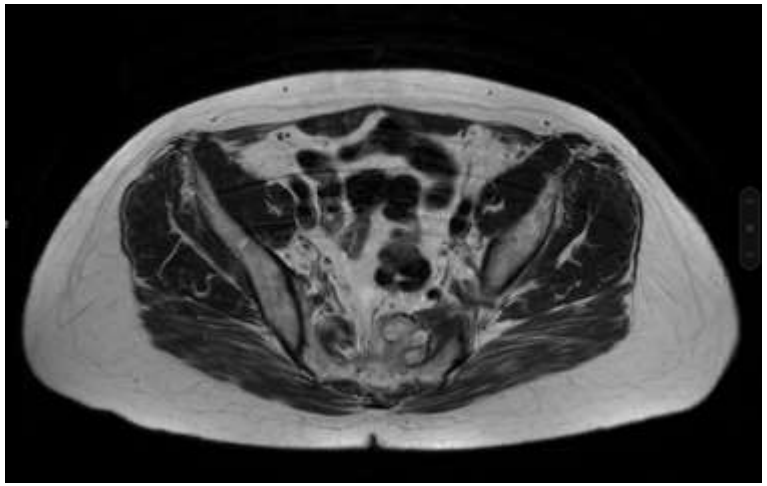
3 Gy x 16 frazioni

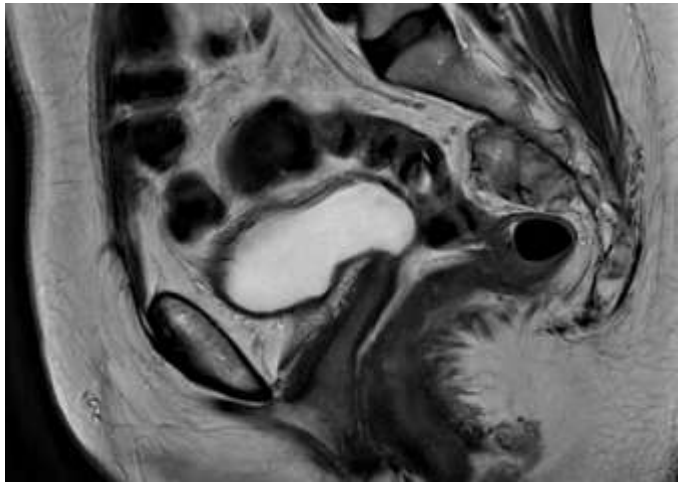
CLINICALLY AND RADIOLOGICALLY NEGATIVE AT 10 MONTHS FOLLOW UP
STENT REMOUVED
PET ON JULY

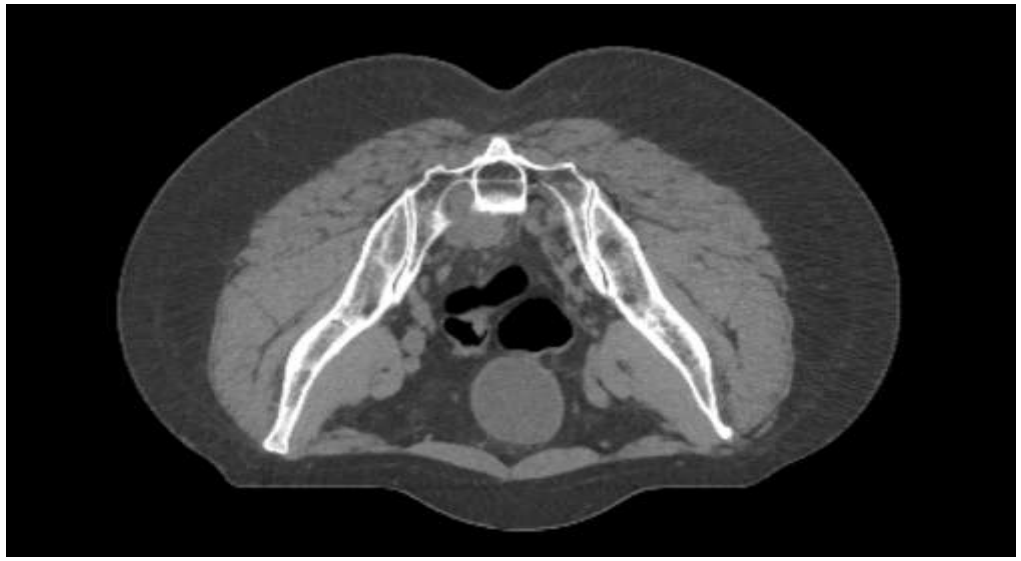


ADIPOSE NODULE…WE'LL SEE

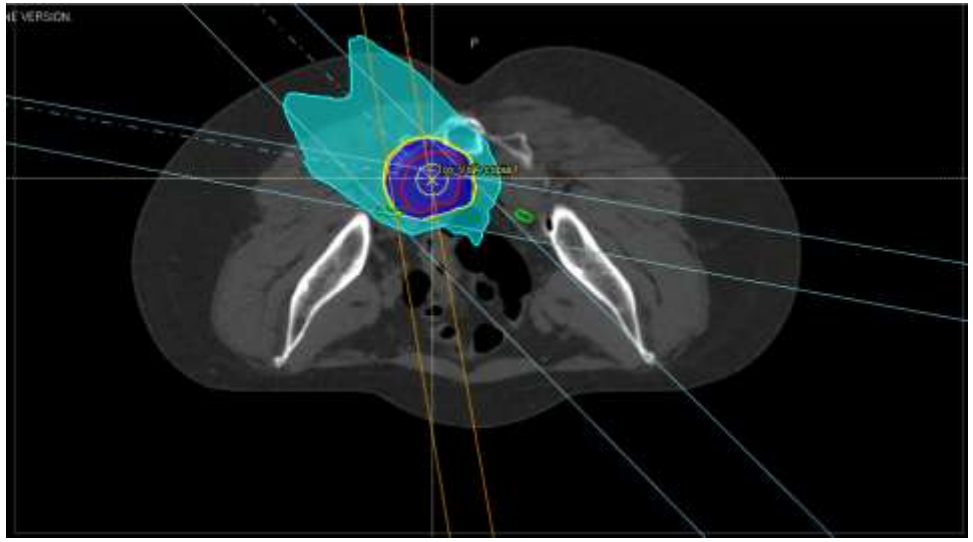
DMP 61 YRS







2018 Low grade endometrial carcinoma
Surgery in extension to left ovary, pelvic peritoneum,douglas perotoneum, pre vescical space
CBDCA + PTX 6 cicles
2020 pelvic recurrence withat least 4 pelvic nodules (1 to 4 cm)
CBDCA + PTX 9 cicles followed by Megestrol /Tamoxifen
2024 recurrence (single nodule)



3 Gy x 16 fractions

Allowed indications

Close or positive margins after surgery

Reirradiation in non metastatic patients

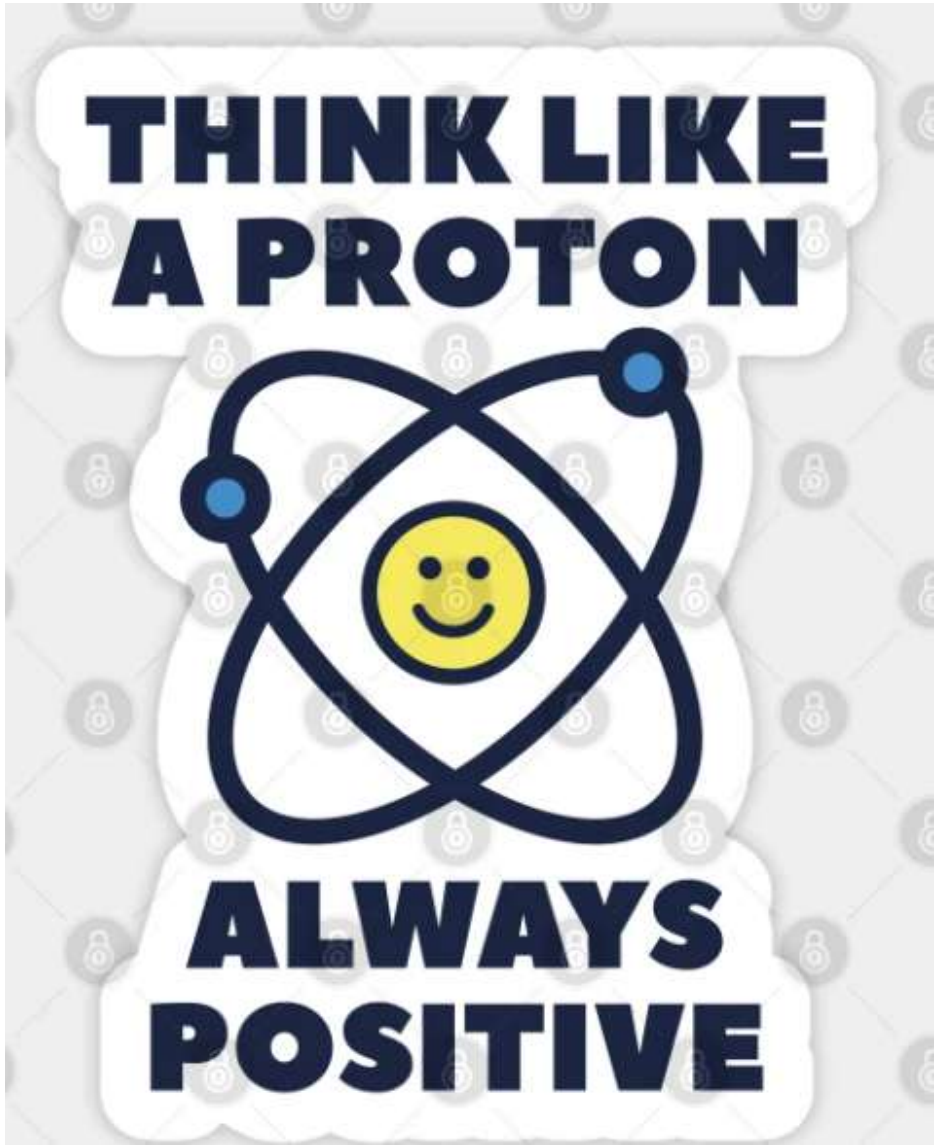
Conceptually

All canditions were reduction of low doses is usefull:

- Young women: reduction second tumors, spare fertility
- Nodal recurrences after previous radioation therapy
- Critical sites close to critical organs
- Radioresistent tumors

CRITICAL POINTS

- USUALLY HEAVY TREATED PATIENTS
- GENERALLY ALREADY IRRADIATED
- PREVIOUS DOSE DISTRIBUTIONS NOT SO EASY
- DIFFERENT INTERNAL ANATOMY AFTER SURGERY
- IDENTIFICATION OF TARGET
- POSITIONING AND PREPARATION



GRAZIE!