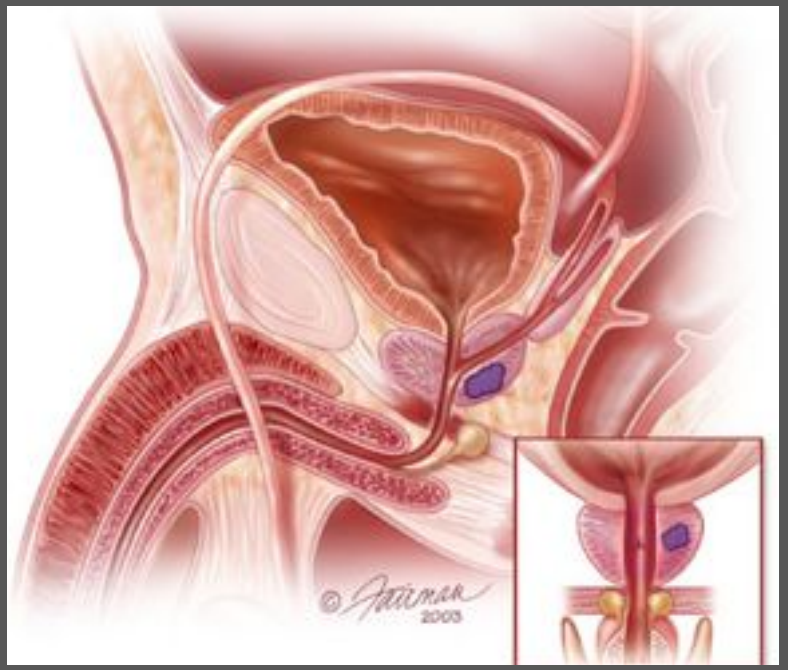

GRANDANGOLO: CA PROSTATA

AIRO 2014, Padova

Alessio G. Morganti

RT dose-effect

Creak A et al.

Br J Cancer 2013

- randomized study:
  - 126 patients
  - med. FUP: **13.7** years
  - T1b-T3b
  - neoadjuv. ADT + 3D-RT
    - 64 Gy vs 74 Gy
    - 1.0 vs 1.5 cm margin

- 64 vs 74 Gy:
  - no differences in:
    - PSA control
    - PC-specific surv.
    - OS
- 1.0 vs 1.5 cm:
  - no differences

Dearnaley DP et al.

Lancet Oncol 2014

- random study (RT01):
  - 862 patients
  - med. FUP: **10** years
  - T1b-T3a
  - neoadjuv. ADT + 3D-RT
    - 64 Gy vs 74 Gy

- 64 vs 74 Gy:
  - BDFS: 43% vs 55%
    - p=0.0003
  - OS: 71% vs 71%
    - p=0.96

Hou Z et al.

J Cancer Res Clin Oncol 2014

- metanalysis:
  - 6 randomized trials
  - higher vs convent. dose
  - prolonged follow-up
  - 2822 patients
  - 3D-CRT
- higher dose:
  - > BDFS
  - = OS
  - = PCSS
  - > G $\geq$ 2 GI late tox.
  - > G $\geq$ 2 GU late tox.

hypofractionation

Norkus D et al.

Radiation Oncol 2014

- randomized trial:
  - interim analysis: 124 pts
  - high risk PC
    - 76 Gy (2 Gy/fr.) vs
    - 63 Gy (3.15 Gy/fr., 4 fr/w)
  - LT adjuvant ADT
- hypofractionation:
  - earlier toxicity
  - earlier recovery
  - > G $\geq$ 1 GU acute toxicity

Pollack A et al.

J Clin Oncol 2013

- randomized trial:
  - favorable to high risk
  - 303 pts
  - med. FUP: 68.4 mts
  - 76/2 Gy vs 70.2/2.7 (84.4 Gy)
  - high risk → LT ADT
- standard vs hypofr.
  - < treatm. time 2.5 wks
  - 5-y-BCDF: 21.4% vs 23.3%
  - = late toxicity
  - < urinary function with HF in pts with < urinary function

Hoffman KE et al.

Int J Radiat Oncol Biol Phys 2014

- randomized trial:
  - low-intermediate risk
  - 203 pts
  - med. FUP: 6 yrs
  - 75.6/1.8 Gy vs 72/2.4
- standard vs hypofract.
  - 5-yrs grade $\geq$ 2 tox.:
    - GU 16.5% vs 15.8% (p: NS)
    - GI: 5.1% vs 10.0% (p: NS)

Koontz BF et al.

Eur Urol 2014

- systematic review:
  - 6 studies
  - superiority designed
  - standard vs moderate HF

- = BDFS
- = late GI toxicity
- = late GU toxicity
- non-inferiority studies pending

Botrel TE et al.

Core Evid 2013

- metanalysis:
  - 9 studies
  - hypofract. vs standard
  - 2702 patients
- hypofractionation:
  - = BF
  - > acute GI toxicity
  - = acute GU toxicity
  - = late toxicity

RT technique

Heemsbergen WD et al.

Radiother Oncol 2013

- randomized study:
  - rectang. vs conform. fields
- 164/266 high risk pts
- FUP: 34 months
- 66 Gy to:
  - prost. + sem. vesc. + 1.5 cm

- clinical failures:
  - rectangular: 9
  - conformal: 24
  - p: 0.012
- failures out of prostate
  - rectangular: 7
  - conformal: 19
  - p: 0.025

Michalski JM et al.

Int J Radiat Oncol Biol Phys 2013

- randomized trial:
  - RTOG 0126
  - 763 pts
  - 79.2 Gy
  - 3D vs IMRT
- IMRT
  - < acute tox G $\geq$ 2 GU/GI
  - = acute G $\geq$ 2 GU tox
  - = late GU/GI tox

organ motion

den Harder AM et al.

Strahlenther Onkol 2014

- randomized trial:
- 92 pts:
  - 77/2.2 Gy, IMRT
  - magnesium oxide vs placebo
- no differences:
  - prostate motion
  - rectal filling
  - rectal air pockets
- magnesium oxide:
  - not recommended

Ki Y et al.

Int J Radiat Oncol Biol Phys 2013

- randomized trial:
- 40 pts:
  - 78/2 Gy, tomotherapy
  - Probiotic lactobacillus acidophilus vs placebo

- L acidophilus group:
  - rectal volume
    - < median value
    - < % volume change

hormonal therapy

Denham JM et al.

Radiother Oncol 2013

- randomized trial
  - TROG 9601
  - 802 pts, T2-4N0
  - T2b-4
  - NA ADT:
    - NO vs 3 months vs 6 months
  - incidence of dist. failures
    - first 4 years FUP
      - DF: 39, 40, 26
    - subsequently
      - DF: 25, 20, 11
    - mets not prevented by 3 mts NA ADT

Mason M et al.

Clin Oncol (R Coll Radiol) 2013

- randomized trial
  - 244 pts
  - T2b-4
  - NA ADT:
    - degarelix vs
    - goserelin + bicalutamide
- degarelix:
  - = prostate shrinkage
  - > urinary symptom relief
    - in symptomatic patients

Mydin AR et al.

Int J Radiat Oncol Biol Phys 2013

- randomized trial
  - 4 vs 8 months NA HT
- secondary analysis
  - salvage HT, 3 groups:
    - A: PSA < 10, M0
    - B: PSA > 10, M0
    - C: M1

- OS from:
  - enrol. - 10-year:
    - A: 78%
    - B: 42%
    - C: 29%
  - salvage HT – 6-year:
    - A: 70%
    - B: 47%
    - C: 22%
  - p: < 0.0005

erectile disfunction

Pisansky TM et al.

JAMA 2014

- randomized study
  - 242 pts
  - Tadalafil for 24 weeks
  - starting with ERT or BRT
- International Index of Erectile Function:
  - not improved @:
    - 28-30 weeks
    - 12 months

Ilic D et al.

J Med Imaging Radiat Oncol 2013

- randomized study
  - 27 pts
  - Sildenafil for 6 months
  - after RT
- International Index of Erectile Function:
  - improved @:
    - 4 weeks
    - 6 months
  - no differences @:
    - 2 years

Zelefsky MJ et al.

J Urol 2014

- randomized study
  - 279 pts
  - Sildenafil for 6 months
  - from 3 days before RT
- @ 2 years
  - International Index of Erectile Function:
    - no differences
  - functional erection with or without medication:
    - Sildenalfil: 81.6%
    - Placebo: 56.0%
  - > sexual desire

Yang L et al.

Urol Int 2013

- systematic review:
  - 4 randomized studies
  - phosphodiesterase-5 inhibitors
  - treatment of erectile disfunction
  - after RT
- PDE5:
  - improved:
    - International Index of Erectile Function
    - Global Efficacy Questions
    - Sexual Encounter Profile
  - side effects:
    - mild to moderate

radiation proctitis

Maggio A et al.

Int J Radiat Oncol Biol Phys 2014

- randomized study:
  - 166 pts
  - sodium butirate enemas vs placebo
  - during RT + 2 weeks
- no differences:
  - proctitis
    - incidence,
    - severity
    - duration
  - endoscopic data

Yeoh E et al.

Int J Radiat Oncol Biol Phys 2013

- randomized study:
  - 30 pts with
  - intractable rectal bleeding
    - argon plasma coagulation vs
    - topical formalin
  - end-point:
    - ≤ 1 bleeding/month
    - VAS < 25/100
    - no need of transfusion
- endpoint achieved:
  - APC: 94%
  - topic formalin: 100%
- comparable efficacy

Chruscielewska-Kiliszek MR et al.

Colorectal Dis 2013

- randomized study:
  - 122 pts with
  - chronic emorragic RT proctitis
  - argon plasma coagulation +
  - oral sucralfate vs placebo

- in both groups:
  - severity score:
    - 4 → 2
  - bleeding score:
    - 2 → 0
- APC safe & effective
- clin. & endosc. results
  - not affected by sucralfate

predictive factors

Verhoven B et al.

Int J Radiat Oncol Biol Phys 2013

- RTOG 9408
  - 468 pts
  - low-intermediate risk
  - RT +/- ST ADT
  - Ki-67 staining index
- high Ki-67 SI (≥Q3):
  - > dis.-spec. mort.
  - > distant mets
  - > bioch. failures
- stratification factor in future trials

Cury FL et al.

Cancer 2013

- RTOG 9413: 1070 pts
- @ the end of ST ADT + RT
- PSA-CR (PSA < 0.3 mg/mL)

- pts without PSA-CR:
  - < diseas.-spec. surv.
  - > distant mets
  - > bioch. failures
- LT ADT?

surgery versus radiotherapy

Petrelli F et al.

Clin Genitourin Cancer 2014

- RP vs RT:
- metanalysis 17 studies:
  - 16 retrospective
  - 1 randomized
- evaluated:
  - OS, PCSM, non-PCSM, BF

- RP:
  - = BF
  - > OS
  - > PCSM
  - > non-PCSM

Van Tol-Geerdink JJ et al.

BJU Int 2013

- 240 pts
  - eligible for RP or RT
- randomized:
  - usual care
  - decision aid

- treatment choice:
  - ← hospit.& decision aid
- RP remained preferred
- decision aid →
  - > brachytherapy
  - < undecided

summary

- > dose → > BDFS → = survival
- hypofractionation → = BDFS → > toxicity?
- RT technique: probiotics → < organ motion
- NAD ADT: 6 mts > 3 mts
- early salvage ADT: useful in terms of OS
- proctitis: APC effective
- new predictive factors: Ki-67, PSA-CR