# SBRT nella malattia oligoricorrente da carcinoma prostatico: studio retrospettivo multiistituzionale

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# Why SBRT for oligorecurrent PC?

✓ Local curative Intent

✓ Low side effect

✓ Delay ADT/systemic therapies (second line)

✓ Local control ➡ Systemic control?
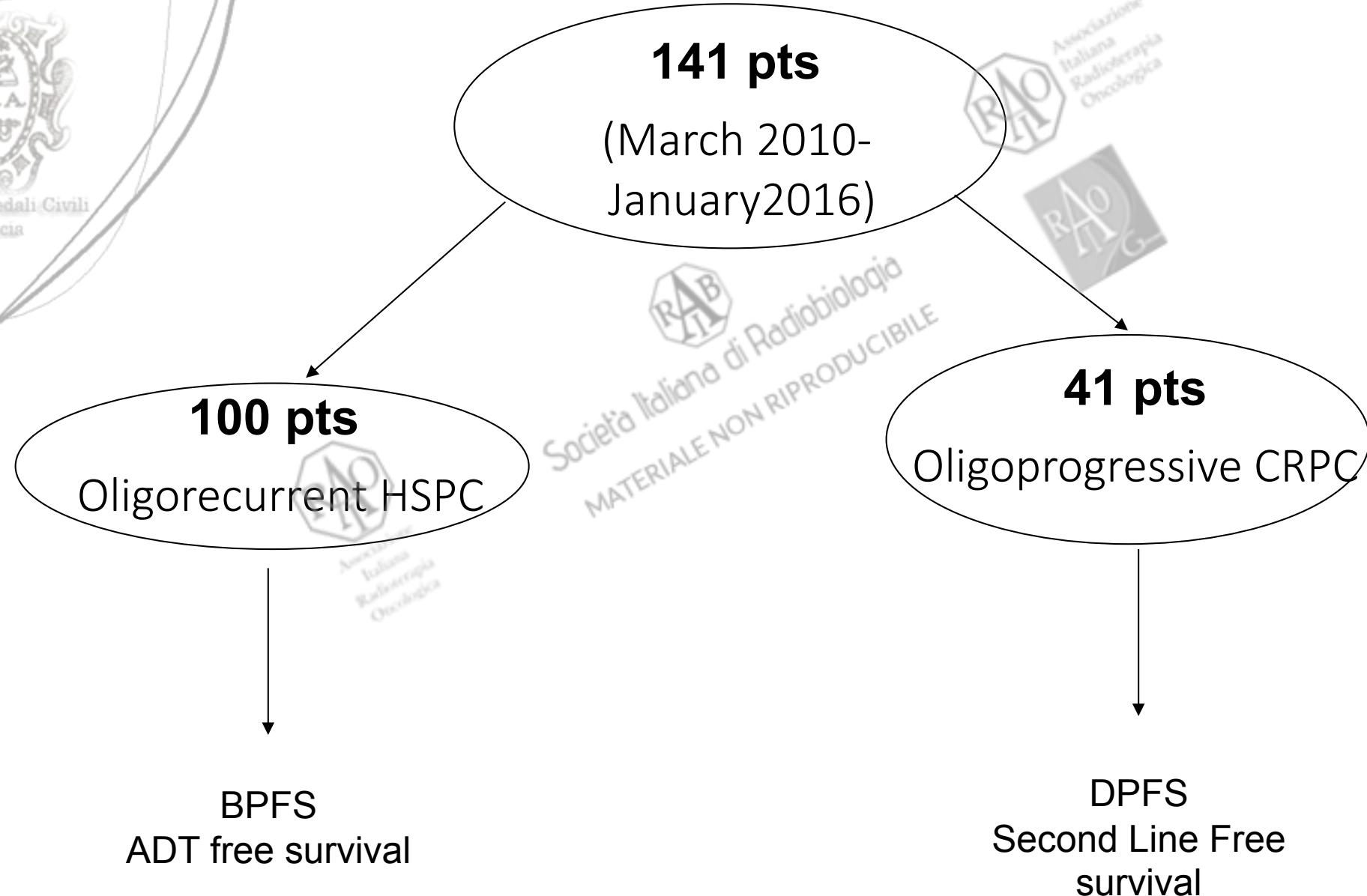
# Patients & Methods



141 pts
(March 2010-
January2016)

100 pts
Oligorecurrent HSPC

41 pts
Oligoprogressive CRPC

BPFS
ADT free survival

DPFS
Second Line Free
survival

# Patients & Methods



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**(139 lesions)**

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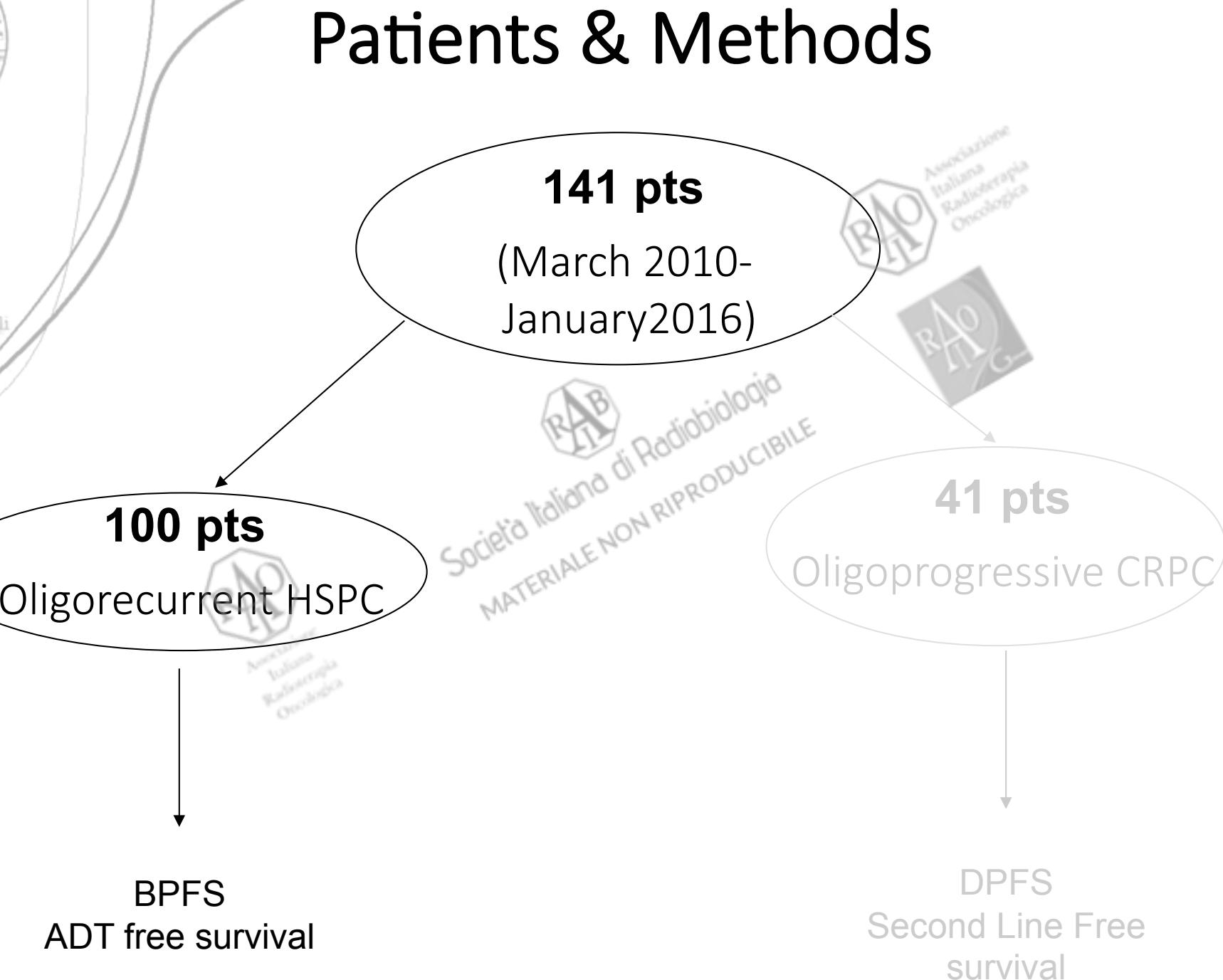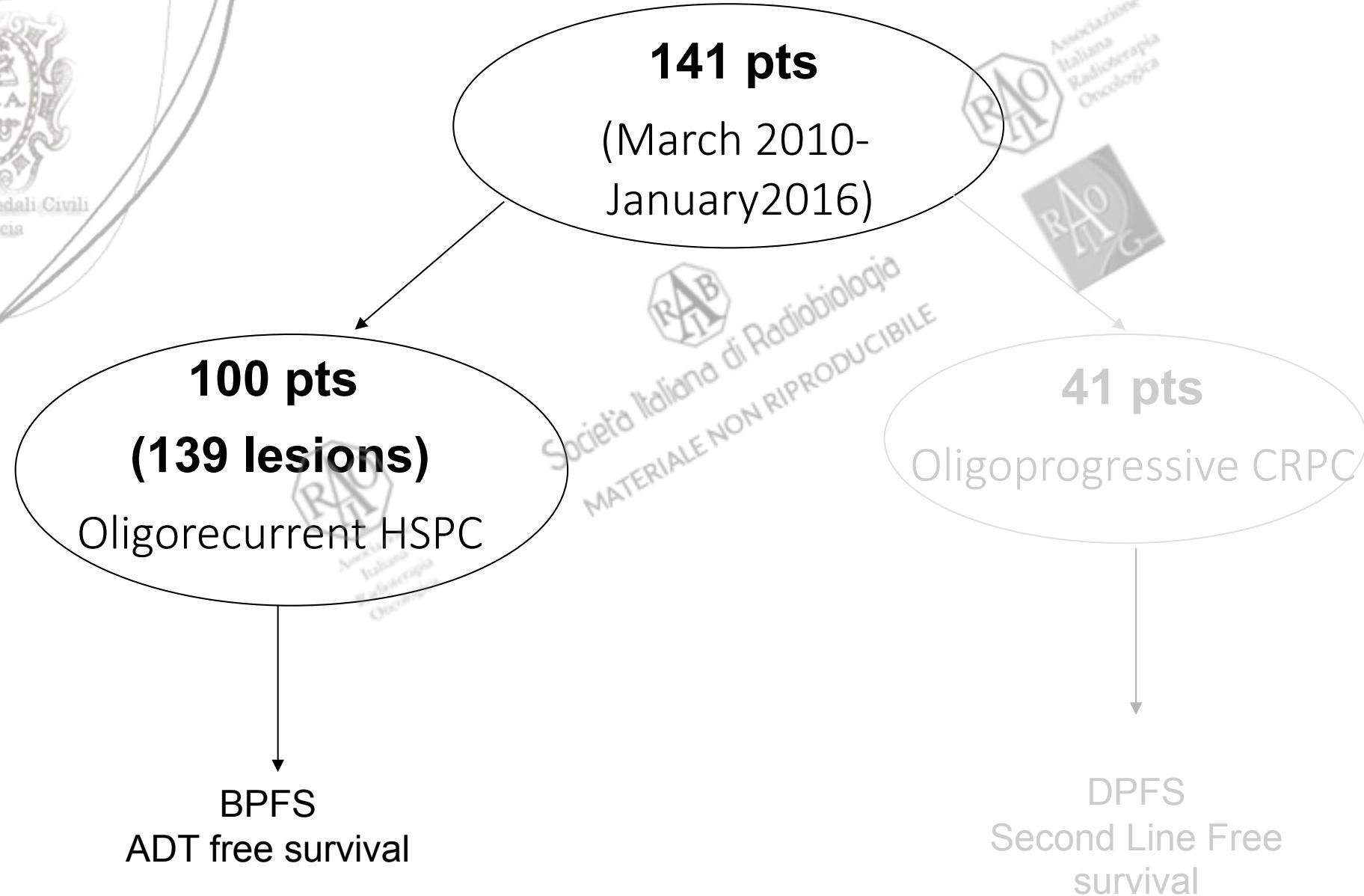
# Oligorecurrent HSPC: characteristics (1)

| Characteristic | All patient (n=100) |
|---|---|
| D'Amico Risks :<br>- Low risk<br>- Intermediate risk<br>- High risk<br>- Very high | 5<br>21<br>43<br>31 |
| Gleason Score:<br>- < 7<br>- ≥ 7 | 15<br>85 |
| Primary Treatment:<br>- Surgery<br>- Surgery+EBRT<br>- EBRT/Brachitherapy | 24<br>58<br>18 |
| ADT Adjuvant<br>-Yes<br>-No | 38<br>62 |

# Oligorecurrent HSPC: characteristics (2)

| Characteristic | All patient (n=100) |
|---|---|
| Median Age (years) | 67 |
| Median Time to MTS (month) (from primary treatment) | 43,9 |
| Median PSA pre-SBRT (ng/ml) | 2,38 |
| Restaging -PET Choline -TC/ Scintigraphy | 96 4 |
| Site (%): -Node -Bone | 84,2 15,8 |
| ADT with SBRT -Yes (median 11 ms, mean 10 ms) -No | 24 76 |

# Oligorecurrent HSPC: SBRT characteristics
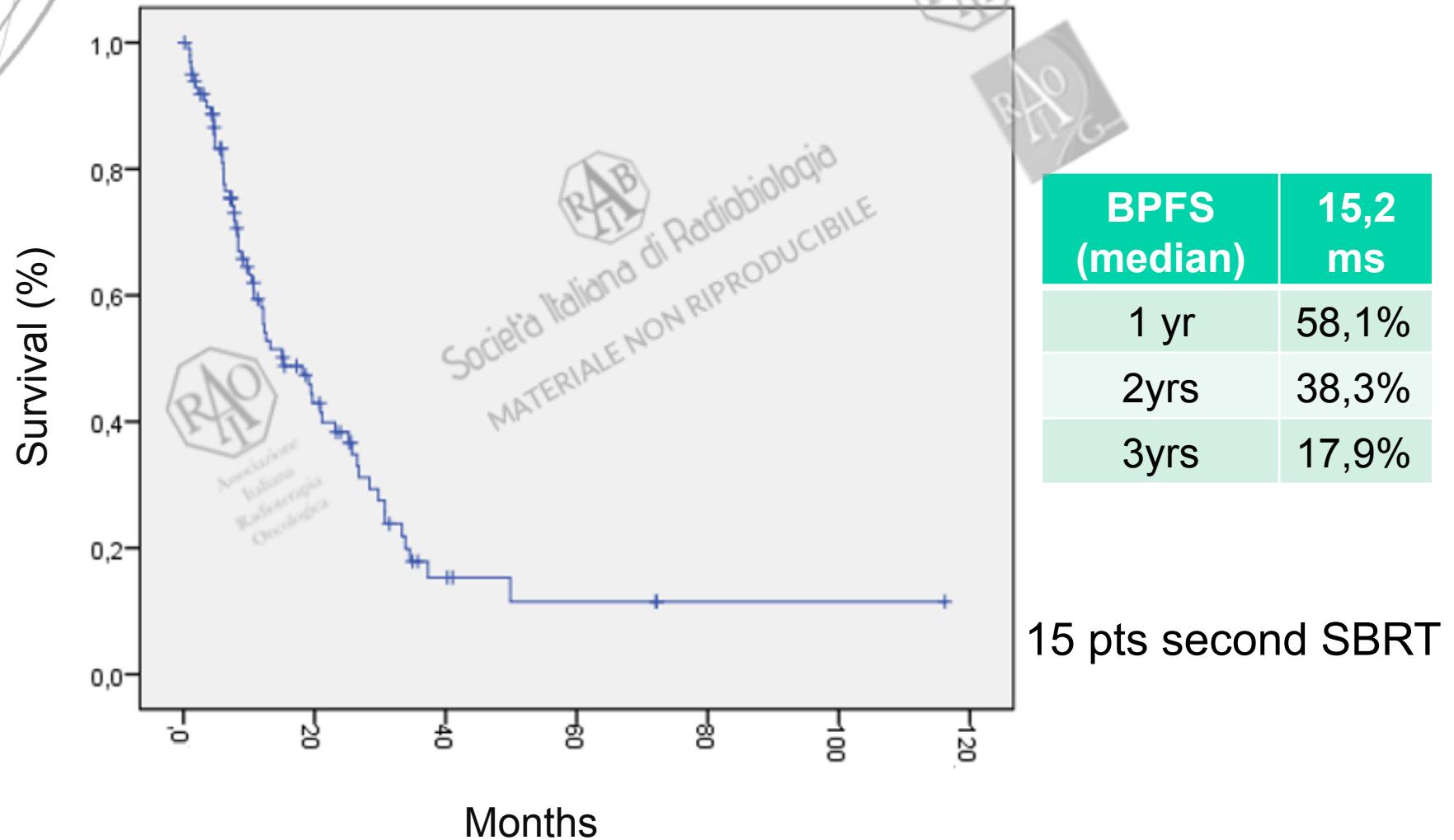
| Characteristic | All patient (n=100) |
|---|---|
| Prophylactic Node irradiation<br>- Yes<br>- No | 7<br>93 |
| Median BED ($\alpha/\beta$= 3 Gy) | 116 |

# Oligorecurrent HSPC: Results (1)

Median Follow-up= 20,4 months

**BPFS**



| BPFS (median) | 15,2 ms |
|---|---|
| 1 yr | 58,1% |
| 2yrs | 38,3% |
| 3yrs | 17,9% |

15 pts second SBRT
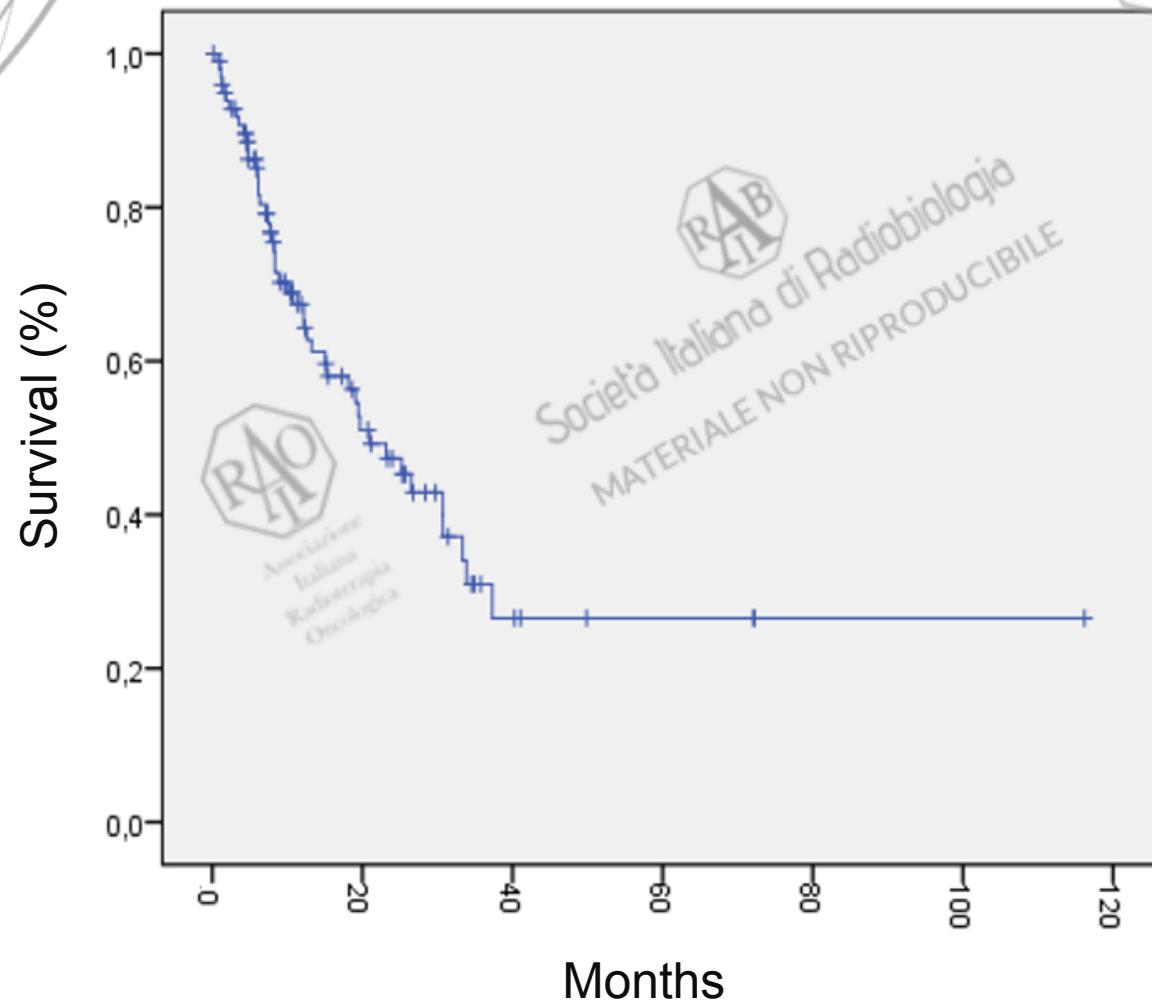
# Oligorecurrent HSPC: Results (2)

**ADT-FS**

Median Follow-up= 20,4 months



| ADT-FS (median) | 20,93 ms |
|---|---|
| 1 yr | 67,4% |
| 2yrs | 47,3% |
| 3yrs | 31,0% |

# Oligorecurrent HSPC:
# Results (3): univariate analysis

**Prognostic factors:**

- D'Amico Risks
- Gleason Score
- Primary site of mts
- n° of mts
- Interval from primary treatment          NS
- Pre-SBRT PSA value
- Adjuvant ADT
- BED
- Prophylactic nodal irradiation

- PSA dt                    ⟶          SIGNIFICANT

# Oligorecurrent HSPC:
# Results (4): univariate analysis
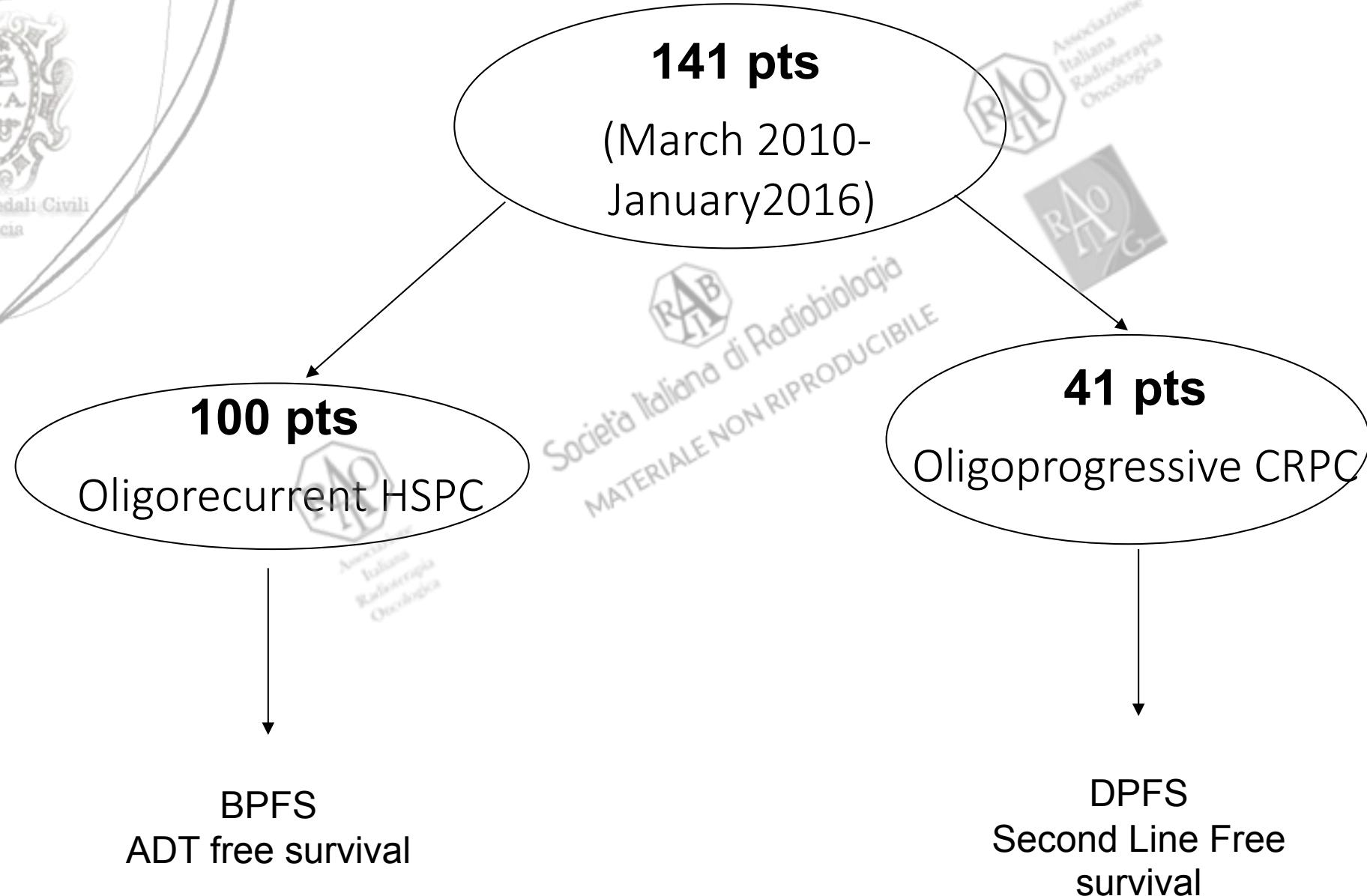
| PSA – DT (Ms) | | BPFS | p | ADT-FS | p |
|---|---|---|---|---|---|
| < 6.4 | Med (ms) | 8.33 | | 9.97 | |
| | -1 yr | 38.1% | | 42.9% | |
| | - 2 yrs | 18,3% | | 21,4% | |
| | - 3 yrs | | 0,08 | | 0,04 |
| > 6.4 | Med (ms) | 19.1 | | 25,23 | |
| | - 1 yr | 61.7% | | 71,5% | |
| | - 2 yrs | 41.5% | | 51,2% | |
| | - 3 yrs | 19.3% | | 33,5% | |

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# Patients & Methods

**141 pts**

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**41 pts**

**(70 lesions)**

Oligoprogressive CRPC

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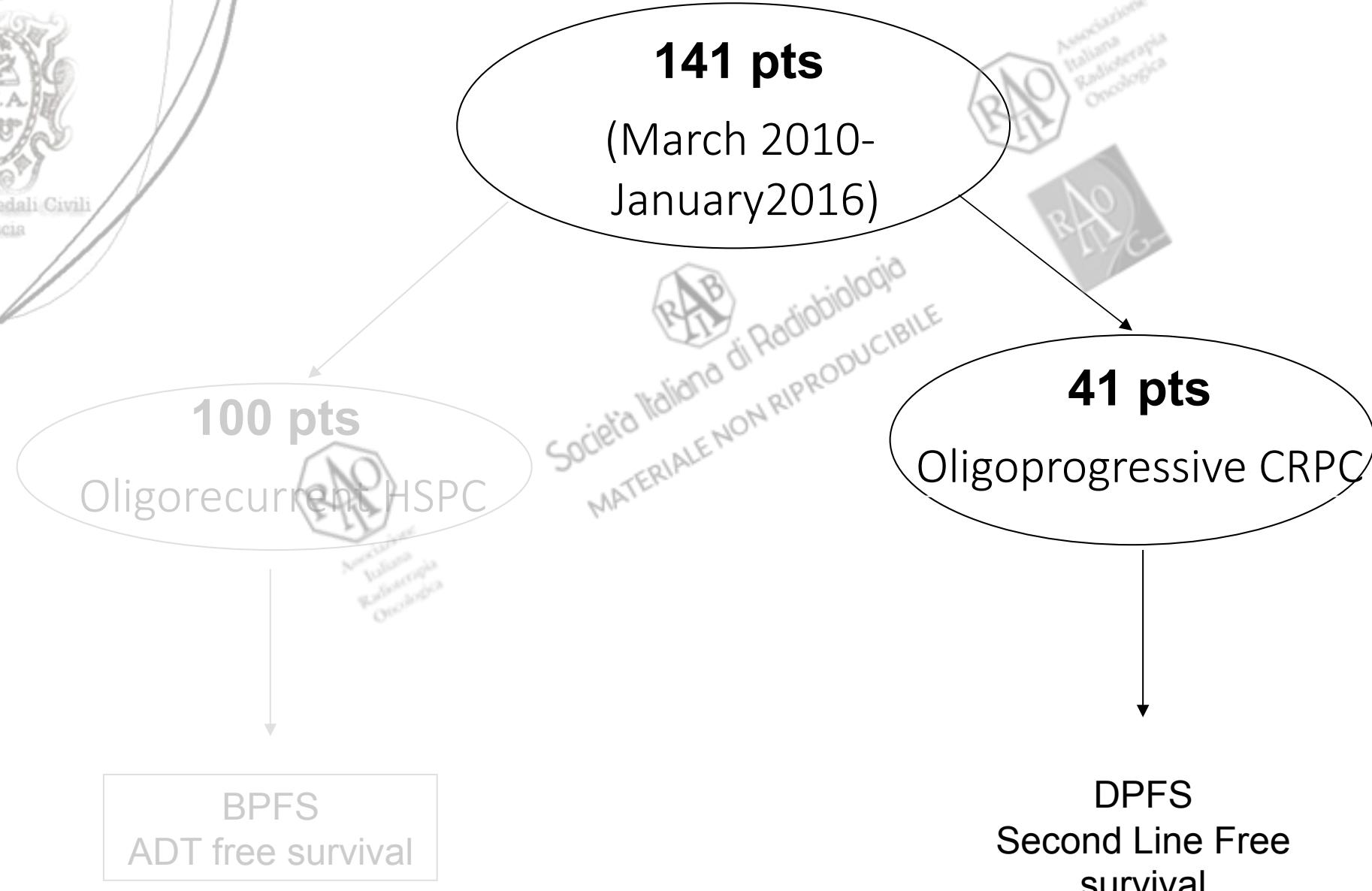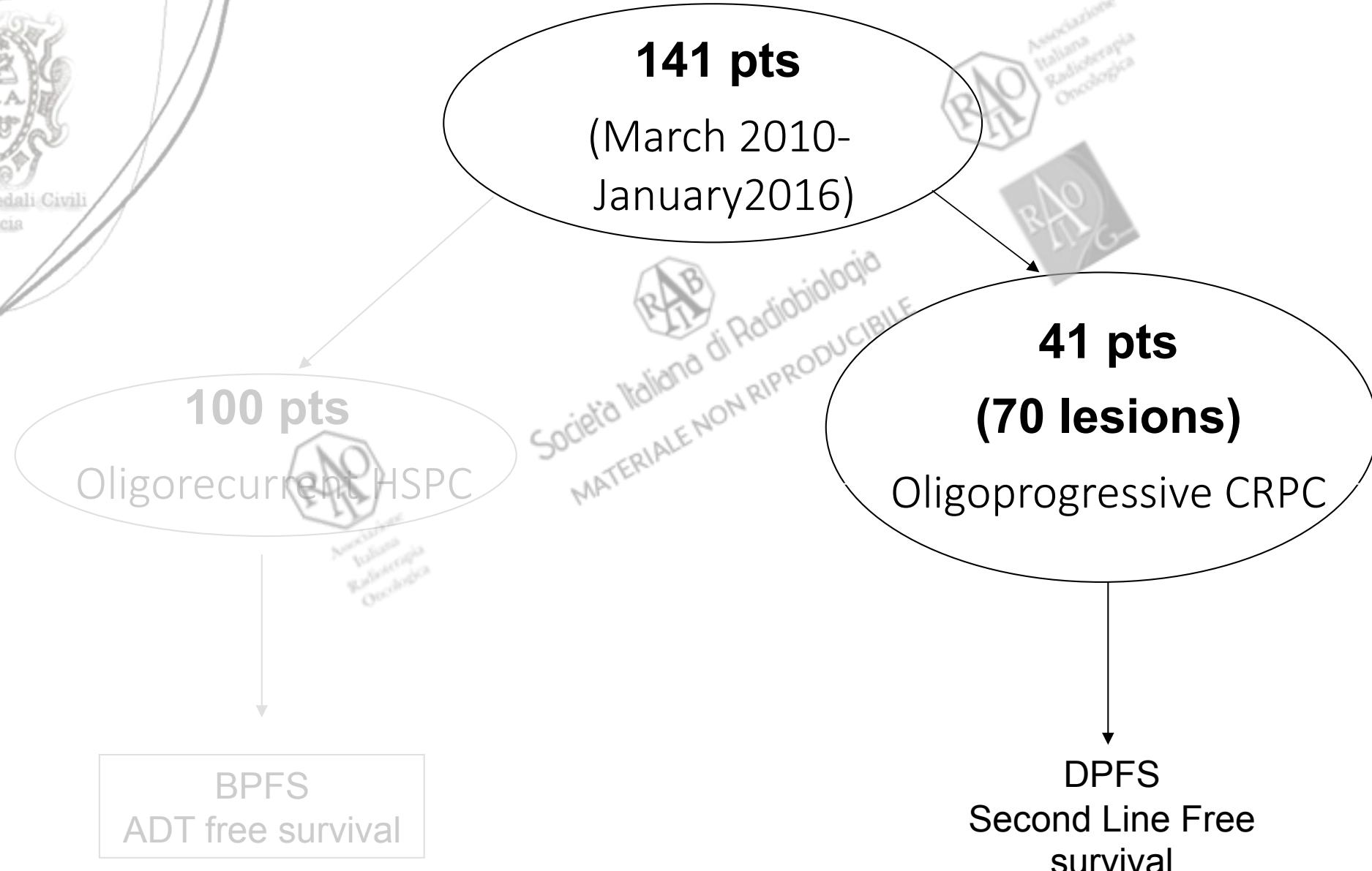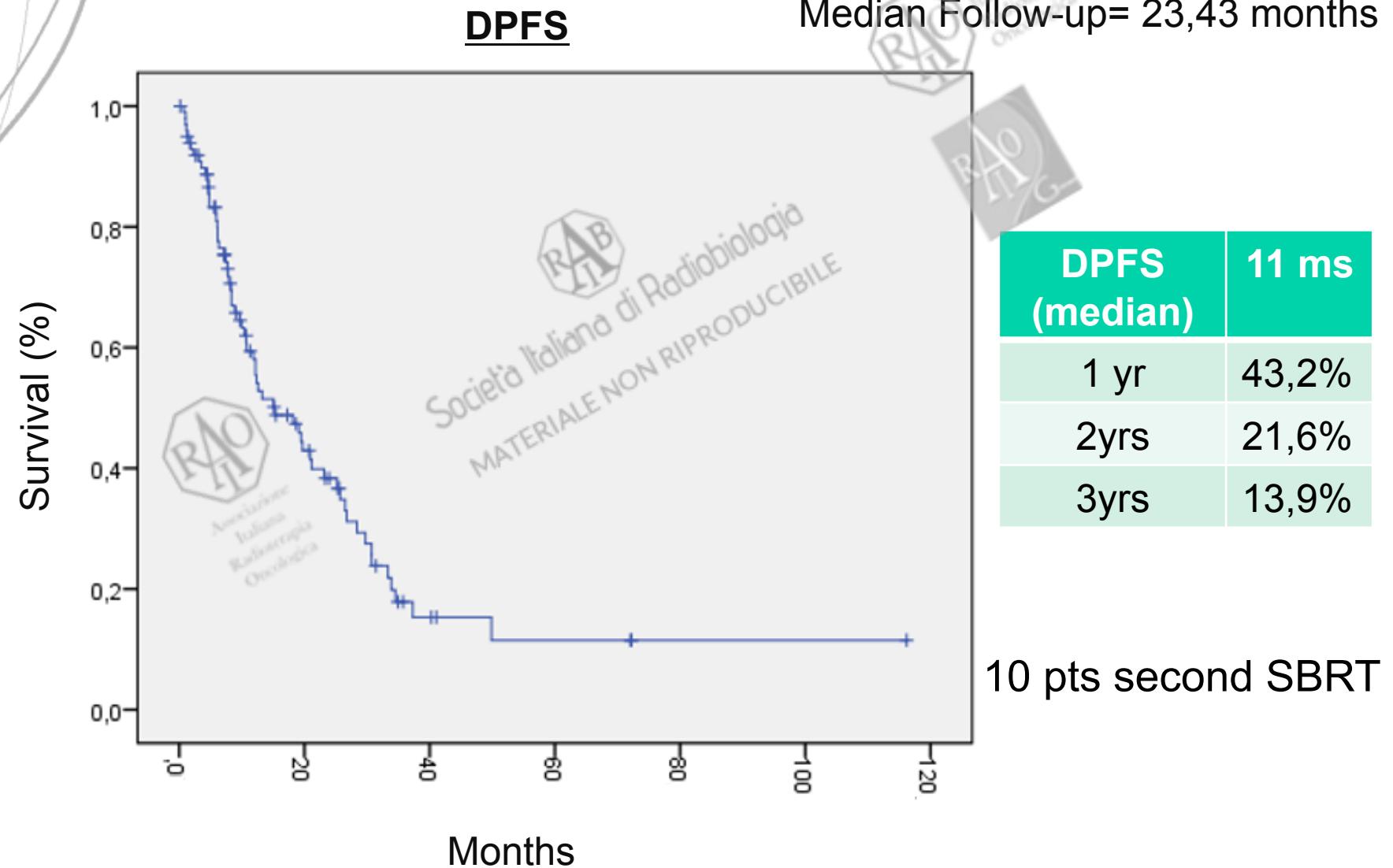
# Oligoprogressive mCRPC : characteristics (1)

| | ALL PTS (41) |
|---|---|
| **D'Amico Risks :** | |
| - Low risk | 0 |
| - Intermediate risk | 6 |
| - High risk | 16 |
| - Very high | 19 |
| **Gleason Score:** | |
| - < 7 | 1 |
| - ≥ 7 | 40 |
| **Primary Treatment:** | |
| - Surgery | 7 |
| - Surgery+EBRT | 18 |
| - EBRT/Brachitherapy | 11 |
| - ADT | 5 |

# Oligoprogressive mCRPC : characteristics (2)

| Characteristic | All patient (n=41) |
|---|---|
| Median Age (years) | 65 |
| Time to castrate resistant (month) (from the start of palliative ADT) | 37 |
| Median PSA pre-SBRT (ng/ml) | 4 |
| Restaging<br>-PET Choline<br>-TC/ Scintigrafy | 38<br>3 |
| Site (%):<br>-Node<br>-Bone | 70<br>30 |
| BED (Gy): | 116 |

# Oligoprogressive mCRPC: Results (1)

**DPFS**

Median Follow-up= 23,43 months



| DPFS (median) | 11 ms |
|---|---|
| 1 yr | 43,2% |
| 2yrs | 21,6% |
| 3yrs | 13,9% |

10 pts second SBRT

# Oligoprogressive mCRPC: Results (2)

**Second-line-FS**  Median Follow-up= 23,43 months



| 2nd line-FS (median) | 22 ms |
|---|---|
| 1 yr | 74,8% |
| 2yrs | 41,3% |
| 3yrs | 29,5% |
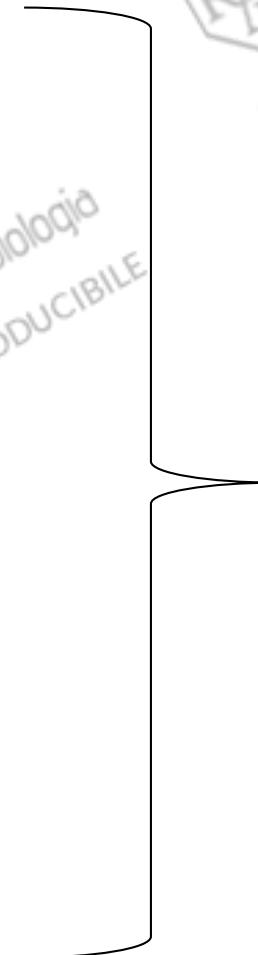
# Oligorecurrent HSPC:
# Results (3): univariate analysis

## Prognostic factors:

- D'Amico Risks

- Gleason Score

- Primary site of mts

- n° of mts

- Time to castrate resistant

- Pre-SBRT PSA value

- BED

NS

# Conclusions

✓ SBRT is a safe and feasible treatment

✓ SBRT in oligorecurrent and oligoprogressive prostate cancer delay systemic therapies for about two years without toxicity

✓ Low PSA-DT is correlated with a worse ADT-FS

✓ Our results are similar to those present in literature

Future Development:

➢ Prospective trials are needed

➢ Role of concomitant ADT? Role of prophylactic nodal RT?

➢ Combination with new hormonal therapy (Abiraterone, Enzalutamide)?