

Cabergoline is an effective treatment for clinically non-functioning pituitary adenomas

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OBJECTIVES

- To evaluate the role of DA therapy in patients with NFPA residual tumors after surgery
- To examine whether there is a correlation between response to DA treatment and D2R tumors expression
- To evaluate predictive factors associated with tumors response

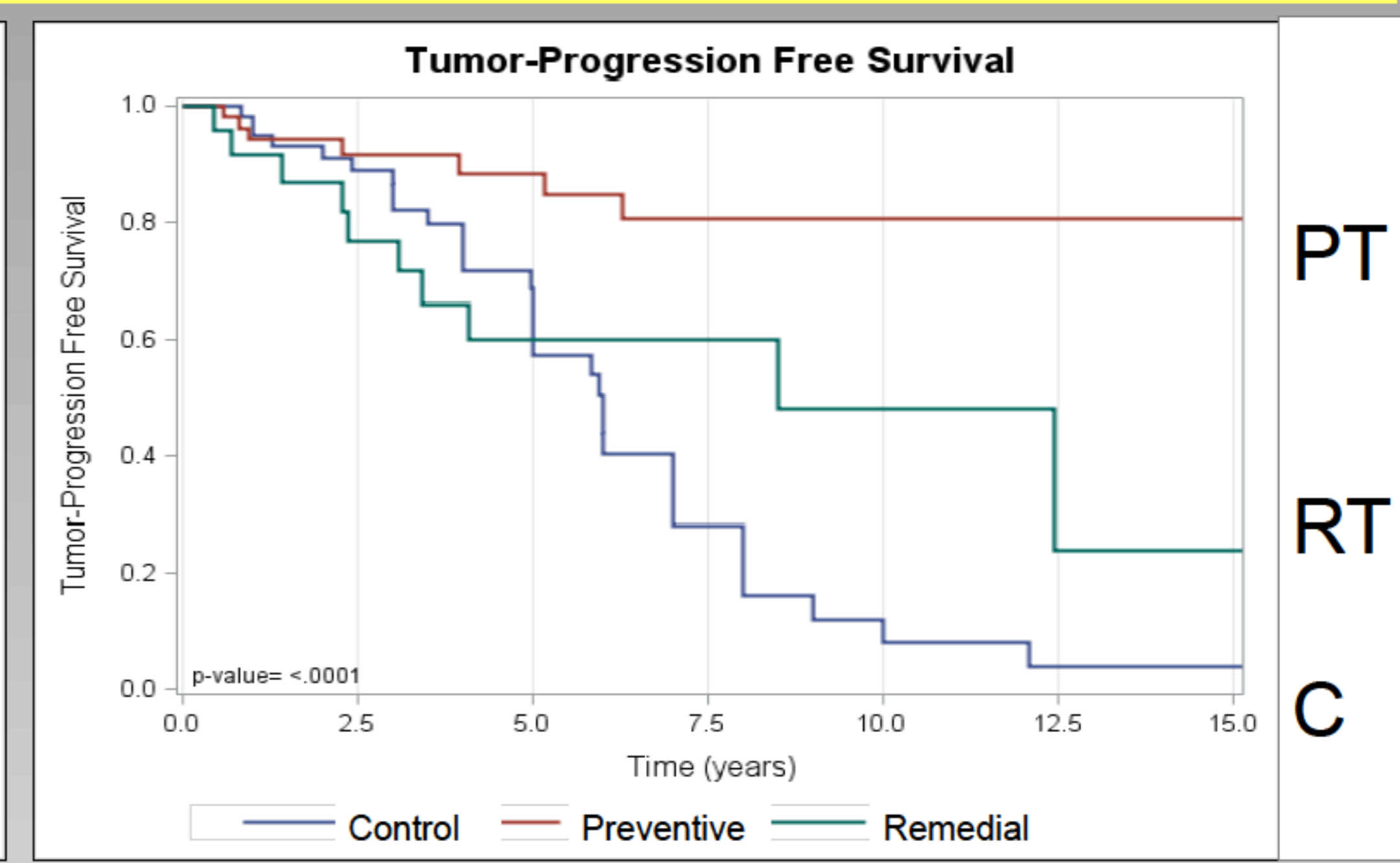
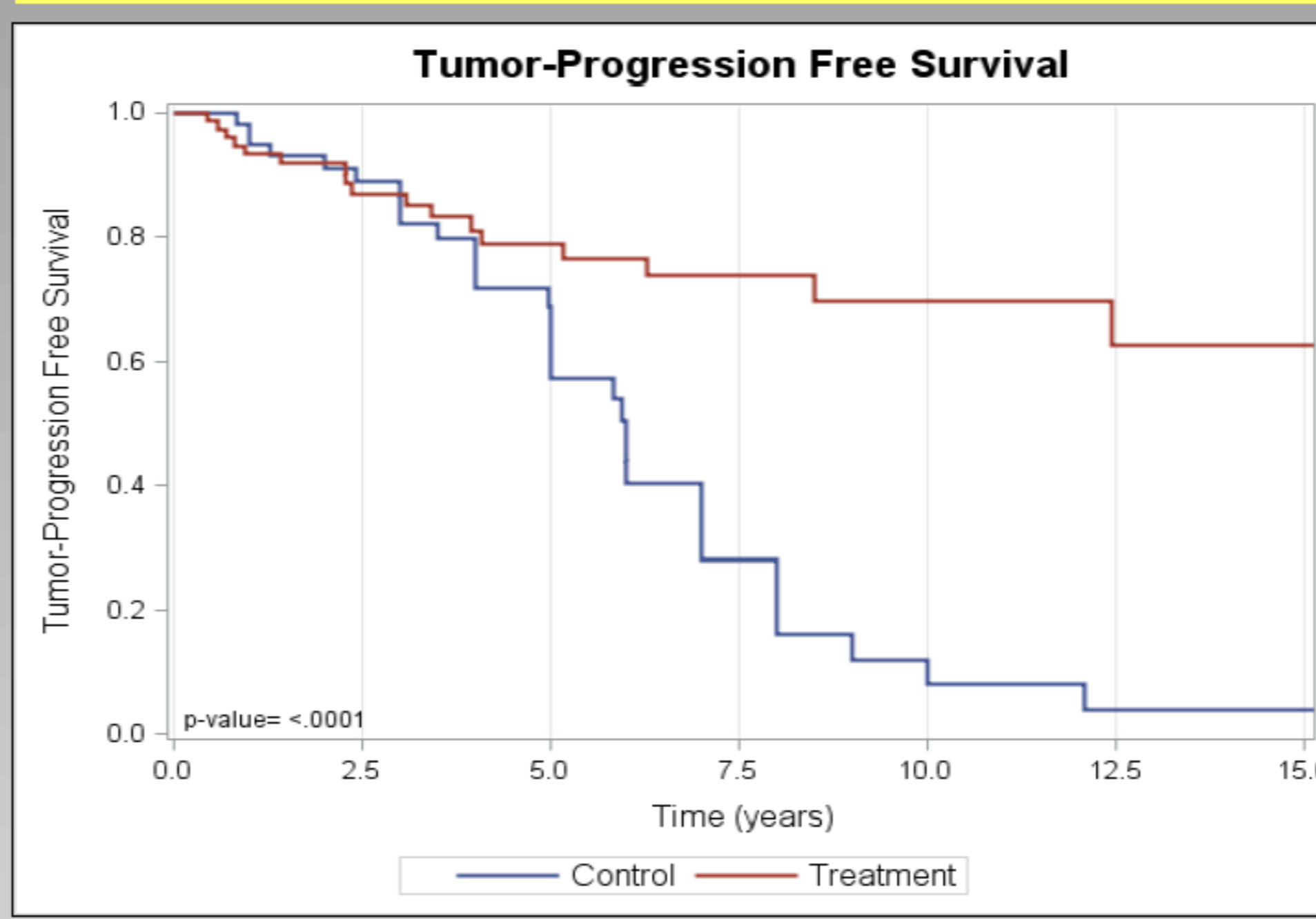
METHODS

- Retrospective analysis of prospectively collected data was conducted at two pituitary referral centers with different standard practices for post-operative management of NFPA: DA therapy or conservative follow up.
- Patients were treated (cabergoline 2 mg/week) upon detection of residual tumor on postoperative MRI (preventive treatment- PT- group, N=55), or when tumor growth was detected during follow-up (remedial treatment -RT- group, N=24). The control group received no medication and comprised 60 patients.
- Dopamine receptor 2 (D2R) expression was examined by immunohistochemistry,
- D2R long and short isoform mRNA expression was measured by quantitative RT-PCR.

RESULTS

| | Control group (60) | Treatment group (79) | p value |
|---------------------------|--------------------|----------------------|---------|
| Sex F/M | 21/39 | 33/46 | NS |
| Age | 57.3 ±14 | 57.8 ±13 | NS |
| Maximal diameter (pre-op) | 26.2±10.9 | 28.5±11.5 | NS |
| Invasiveness | 58.3% | 57% | NS |
| Visual field defects | 58.3% | 52% | NS |
| Macroadenoma (post-op) | 63.6% | 84% | 0.014 |
| High prolactin | 31.8% | 34.4% | NS |
| Follow up (y) | 6.3±5.2 | 8.8±6.5 | 0.018 |

Post-op treatment of NFPA with DA decreases tumor remnant growth



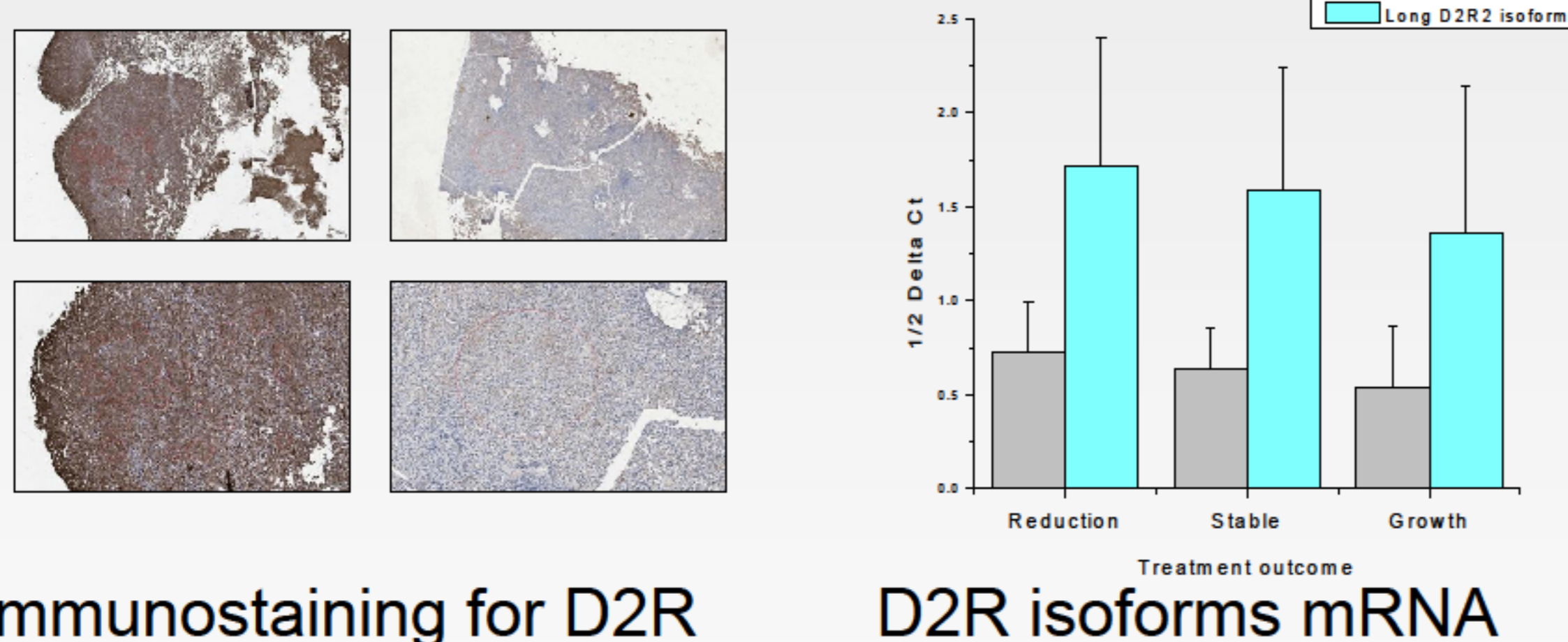
| | Control | Remedial treatment | Preventive treatment |
|--|--------------|--------------------|----------------------|
| Shrinkage | 0% | 29.2% | 38.2% |
| Stable | 46.7% | 29.1% | 49.1% |
| Growth | 53.3% | 41.7% | 12.7% |
| Tumor control (shrinkage + stabilization) | 46.7% | 58.3% | 87.3% |

P<0.0001 for all comparisons

| | 5-y PFS | 10-y PFS | 15-y PFS |
|---------|---------|----------|----------|
| Tx | 78% | 69% | 62% |
| Control | 68% | 12% | 4% |

| | 5-y PFS | 10-y PFS | 15-y PFS |
|---------|---------|----------|----------|
| PT | 88% | 80% | 80% |
| RT | 60% | 48% | 24% |
| Control | 68% | 12% | 4% |

No association between D2R expression and response to treatment



Multivariate analysis for tumor progression

| | | X ² | p | HR | 95% CI |
|----------------|-----------|----------------|--------|------|-----------|
| Medical Center | Treatment | 9.95 | 0.0016 | 0.32 | 0.16-0.65 |
| Post op | Macro | 0.06 | 0.8 | 0.91 | 0.43-1.89 |
| Sex | Male | 5.15 | 0.023 | 2.29 | 1.12-4.68 |
| Age | | 8.61 | 0.003 | 0.96 | 0.94-0.98 |

Clinical Implications

- Preventive post-op DA therapy achieved tumor control in 87.3% of patients with residual tumors
- Shrinkage or stabilization was achieved in 58.4% of the enlarging tumors in the RT group
- 41.7% of patients in the control group required additional surgery and/or radiotherapy as compared to 20.2% of the combined treatment groups (p=0.0084).

CONCLUSIONS

Dopamine agonist therapy is associated with decreased prevalence of residual tumor enlargement in patients with NFPA, particularly when treatment is instituted prophylactically after surgical resection

