Updated results of the phase III Radiation Therapy Oncology Group (RTOG) trial 85-31 evaluating the potential benefit of androgen suppression following standard radiation therapy for unfavorable prognosis carcinoma of the prostate

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Introduction
In locally advanced prostate cancer hormonal therapy often prolongs the suppression of the primary tumor by radiotherapy (RT), but the question remains whether hormonal therapy should be reserved for relapse or used early in asymptomatic patients with locally advanced disease who are receiving external RT. In this phase III Radiation Therapy Oncology Group (RTOG) trial, the researchers compared the clinical outcome of patients who received RT only with those who had RT plus long-term adjuvant goserelin.

Method
A total of 945 patients with locally advanced prostate cancer were included. Of them 477 were randomized to the adjuvant hormone arm (Arm I) and 468 to the RT only arm (Arm II) with hormones. Goserelin (Zoladex) was started during the last week of RT on Arm I and at the time of relapse on Arm II.

Results
- The median follow-up for all living patients was 6.0 years.
- The 8-year local control was significantly better in combined treatment group, 77% and 63% for Arm I and Arm II, respectively (p < 0.0001).
- The distant metastasis rate was significantly lower in combined treatment group at 8 years, 27% vs 37% for Arm I and Arm II, respectively (p < 0.0001).
- There was no significant overall survival difference between two arms at 8 years, 49% vs. 47% for Arm I and Arm II, respectively.
- For patients with Gleason of 8-10 disease, combined treatment significantly improved both absolute and cause-specific survival.

Discussion
Adjuvant treatment with goserelin, when started simultaneously with external RT, improves local control and reduces distant metastasis in patients with locally advanced prostate cancer. For subgroup of patients with Gleason Score of 8-10, addition of goserelin improves overall survival as well.