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Short-Term ADT Combined With Radiotherapy as Salvage Treatment After Radical Prostatectomy. Carrie et al.,

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BACKGROUND

Radiotherapy is the standard salvage treatment after radical prostatectomy. To date, the role of androgen deprivation therapy has not been formally shown. In this follow-up study, we aimed to update the results of the GETUG-AFU 16 trial, which assessed the efficacy of radiotherapy plus androgen suppression versus radiotherapy alone.

METHODS

GETUG-AFU 16 was an open-label, multicentre, phase 3, randomised, controlled trial that enrolled men (aged ≥ 18 years) with Eastern Cooperative Oncology Group performance status of 0 or 1, with histologically confirmed adenocarcinoma of the prostate (but no previous androgen suppression or pelvic radiotherapy), stage pT2, T3, or T4a (bladder neck involvement only) and pN0 or pNx according to the tumour, node, metastasis (TNM) staging system, whose prostate-specific antigen (PSA) concentration increased from 0.1 ng/mL to between 0.2 ng/mL and 2.0 ng/mL after radical prostatectomy, without evidence of clinical disease. Patients were assigned through central randomisation (1:1) to short-term androgen suppression (subcutaneous injection of 10.8 mg goserelin on the first day of irradiation and 3 months later) plus radiotherapy (3D conformal radiotherapy or intensity modulated radiotherapy of 66 Gy in 33 fractions, 5 days a week for 7 weeks) or radiotherapy alone. Randomisation was stratified using a permuted block method (block sizes of two and four) according to investigational site, radiotherapy modality, and prognosis. The primary endpoint was progression-free survival in the intention-to-treat population. This post-hoc one-shot data collection done 4 years after last data cutoff included patients who were alive at the time of the primary analysis and updated long-term patient status by including dates for first local progression, metastatic disease diagnosis, or death (if any of these had occurred) or the date of the last tumour evaluation or last PSA measurement. Survival at 120 months was reported. Late serious adverse effects were assessed. This trial is registered on ClinicalTrials.gov, NCT00423475.

FINDINGS

Between Oct 19, 2006, and March 30, 2010, 743 patients were randomly assigned, 374 to radiotherapy alone and 369 to radiotherapy plus goserelin. At the time of data cutoff (March 12, 2019), the median follow-up was 112 months (IQR 102-123). The 120-month progression-free survival was 64% (95% CI 58-69) for patients treated with radiotherapy plus goserelin and 49% (43-54) for patients treated with radiotherapy alone (hazard ratio 0.54, 0.43-0.68; stratified log-rank test $p < 0.0001$). Two cases of secondary cancer occurred since the primary analysis, but were not considered to be treatment related. No treatment-related deaths occurred.

INTERPRETATION

The 120-month progression-free survival confirmed the results from the primary analysis. Salvage radiotherapy combined with short-term androgen suppression significantly reduced risk of biochemical or clinical progression and death compared with salvage radiotherapy alone. The results of the GETUG-AFU 16 trial confirm the efficacy of androgen suppression plus radiotherapy as salvage treatment in patients with increasing PSA concentration after radical prostatectomy for prostate cancer.

Quality of Life Outcomes After Stereotactic Ablative Radiation Therapy (SABR) Versus Standard of Care Treatments in the Oligometastatic Setting: A Secondary Analysis of the SABR-COMET Randomized Trial. Olson et al., IJROBP

Purpose

Randomized data assessing the longitudinal quality of life (QoL) impact of stereotactic ablative radiation therapy (SABR) in the oligometastatic setting are lacking.

Methods and Materials

We enrolled patients who had a controlled primary malignancy with 1 to 5 metastatic lesions, with good performance status and life expectancy >6 months. We randomized in a 1:2 ratio between standard of care (SOC) treatment (SOC arm) and SOC plus SABR to all metastatic lesions (SABR arm). QoL was measured using the Functional Assessment of Cancer Therapy–General. QoL changes over time and between groups were assessed with linear mixed modeling.

Results

Ninety-nine patients were randomized. Median age was 68 years (range, 43-89), and 60% were male. The most common primary tumor types were breast (n = 18), lung (n = 18), colorectal (n = 18), and prostate (n = 16). Most patients (n = 92) had 1 to 3 metastases. Median follow-up was 26 months. Because of the previously reported inferior survival of the SOC arm, the time for attrition in QoL respondents to <10% of subjects was shorter in the SOC versus SABR arm (30 vs 42 months). In the whole cohort, QoL declined over time after randomization: There were significant declines in total Functional Assessment of Cancer Therapy–General score over time compared with baseline ($P < .001$) owing to declines in physical and functional subscales (both $P < .001$), with no declines in social and emotional subscales. However, the magnitudes of

decline were small, and clinically meaningful changes were not seen at most time points. Comparison between arms showed no differences in QoL between the SABR and SOC arms in total score ($P = .42$) or in the physical ($P = .98$), functional ($P = .59$), emotional ($P = .82$), or social ($P = .17$) subscales.

Conclusions

For patients with oligometastases, average QoL declines slowly over time regardless of treatment approach, although the changes are small in magnitude. The use of SABR, compared with SOC, was not associated with a QoL detriment.

Challenges and Opportunities to Realize “The 2030 Agenda for Sustainable Development” by the United Nations: Implications for Radiation Therapy Infrastructure in Low- and Middle-Income Countries. Datta et al., IJROBP

Purpose

In 2015, the United Nations proposed “The 2030 Agenda for Sustainable Development” goals, which envision reducing premature mortality from noncommunicable diseases by one third by 2030. Because >50% of patients with cancer require radiation therapy (RT), the existing gaps in RT infrastructure in low- and middle-income countries (LMICs) and additional requirements by 2030 were examined. Cost-effective strategies to address this challenge were explored.

Methods and Materials

Public domain databases of the United Nation organizations were accessed. RT requirements for 2030 were estimated according to the International Atomic Energy Agency recommendations. To explore a feasible cost-effective solution, a teleradiotherapy network (TRTNet) was conceived with 4 to 8 primary RT centers (PRTCs) (each with 1 teletherapy unit, US\$2.05 million) linked to a secondary RT center (SRTC; 2 teletherapy units and 1 brachytherapy unit, US\$5.05 million).

Results

Of the 137 LMICs, 51 (37.3%) presently lack RT facilities. The remaining 86 LMICs have 5084 teletherapy units (gap: -7741) and thus a mean access to RT of 33%. By 2030, an additional 12,133 teletherapy units would be required for 14.2 million patients with cancer. A TRTNet linked 4 to 8 PRTCs with 1 SRTC could yield a return of investment (ROI) between -181.1% and 757.6% depending on the TRTNet configuration, 2-year survival, gross national income per capita, and employment-population ratio of the individual LMICs. Sixty-five (47.4%) of these could be expected to attain a positive ROI (7.1% to 757.6%) with a 2-year survival of 50% and a TRTNet configuration of 1 SRTC and 8 PRTCs.

Conclusion

Optimized TRTNets through resource sharing could be a cost-effective and financially viable option to create RT infrastructure and facilitate capacity building toward realizing the 2030 Agenda for Sustainable Development goals in most LMICs. Low-income countries and some LMICs not expected to gain positive ROI should be considered for external financial assistance.