Overall survival was 9.5, 11.1, 4.1, and 9.6 months for SRT, SRT + T, HRT, and HRT + T, respectively. On multivariable analysis, there was no significant difference in all-cause mortality between HRT + T and SRT + T ($P = .57$). In contrast, all-cause mortality was significantly higher for HRT alone ($P = .007$) and for SRT alone ($P = .03$) compared with SRT + T. Other factors associated with increased mortality were greater age, lower Karnofsky performance score (KPS), and multifocal tumors.

Although the groups were not significantly different in many aspects (such as gender, tumor size, and extent of resection), there were several important exceptions. For example, HRT ± T patients were older than the SRT ± T patients (median age, 79 vs 69 years, respectively) and had lower KPSs.

The authors concluded that adding T to HRT could substantially reduce, and possibly halve, the number of radiotherapy treatments needed for elderly patients with GBM. They recommend randomized trials to further elucidate the effectiveness of HRT + T compared with other treatments.

Concurrent Chemoradiotherapy Tolerated in Recurrent HNSCC

Written by Emma Hitt Nichols, PhD

Concurrent reirradiation and combined chemotherapy treatment were tolerable in patients with recurrent head and neck squamous cell carcinoma (HNSCC). Min Yao, MD, PhD, University Hospitals Case Medical Center, Cleveland, Ohio, USA, presented data from a multicenter prospective phase 2 study.

Due to the poor prognosis of recurrent HNSCC, there is an imperative to identify a safe and tolerable therapy course. Despite the prevalence of combined radiotherapy and chemotherapy, an optimal therapeutic regimen has not been elucidated. This study assessed limited-volume continuous-course intensity-modulated reirradiation (IMRT) and weekly cetuximab with platinum-based chemotherapy.

A total of 46 patients (26% female) with recurrent HNSCC and unresectable tumors or positive margins after surgery participated in this trial. All patients had an Eastern Cooperative Oncology Group performance status of 0 to 1 and previously received radiotherapy for >6 months without the combination of drugs used in this study.

Over the course of a 7-week period, patients received daily continuous-course IMRT at a dose of 60 to 66 Gy in 30 fractions to the gross tumor volume. During week 1, a loading dose of 400 mg/m^2 of cetuximab was administered. During weeks 2 to 7, concurrent cetuximab (250 mg/m^2) and cisplatinum (30 mg/m^2) were applied.

The 1-year overall survival rate was 60%, and at the final follow-up, 27 patients were alive. The 1-year disease-free survival rate was 38%. This therapeutic regimen had a range of grade 1 to 4 acute toxicities, with the most common higher-grade toxicities being lymphopenia, dysphagia, radiation-site dermatitis, mucositis, and anorexia. A single patient discontinued treatment.

Some patients experienced local toxicities 90 days after reirradiation, and the highest-grade complication was associated with dysphagia (grade 3). The most common late toxicities were dysphagia, xerostomia, edema, mucositis, fibrosis, and trismus.

The authors determined that patients with recurrent HNSCC could complete a concurrent reirradiation and chemotherapy trial. Further examination of treatment optimization for this disease stage is necessary.

FDG-PET in Cervical Cancer Patients Without Extrapelvic Metastasis

Written by Emma Hitt Nichols, PhD

Prescreens for extrapelvic lymph node metastases using ^{18}F-fluorodeoxyglucose positron emission tomography (FDG-PET) did not enhance survival rate but reduced the use of extended-field concurrent chemoradiation (CCRT). Ji-Hong Hong, MD, PhD, Chang Gung Memorial Hospital, Taoyuan, Taiwan, presented results of this prospective phase 3 trial.

Patients with cervical cancer in whom magnetic resonance imaging (MRI) identifies enlarged pelvic nodes may undergo further imaging with FDG-PET for further characterization. This study examined the impact of additional imaging on targeted radiation treatment and patient outcomes.

A total of 129 patients recently diagnosed with stage I to IVA cervical cancer participated in this study and had MRI-confirmed positive pelvic and negative paraaortic lymph nodes (PALNs). Patients were randomized to either a study group (51%) receiving FDG-PET or a control group (49%) assessed only by MRI. The FDG-PET group received irradiation with fields based on extrapelvic findings, while the control group received irradiation of the whole pelvic field.

There was no difference in freedom from extrapelvic metastasis between the FDG-PET and control groups

(82.4% vs 75.8%, $P = .40$). The 5-year survival rate for patients with relapse in the FDG-PET group was 0% compared with 30% in the control group. FDG-PET revealed extrapelvic metastases in 7 patients (11%), and PALN relapse occurred in 5 patients (8%). In the control group, 10 patients (16%) experienced PALN relapse.

The overall survival rate between groups was similar (68.2% vs 74.1%, $P = .55$), as well as disease-free survival (66.8% vs 71.0%, $P = .72$). Pretreatment FDG-PET showed that 18 patients had just a primary tumor; their disease-free survival rate of 94.5% was significantly better than that of all other patients.

The authors concluded that despite the lack of differences between the groups, the specificity of FDG-PET findings reduced the need for extended CCRT of nearby regions and can be a helpful pretreatment tool for targeted therapy.

A Single Weekly Tumor Bed Boost Is Comparable to Daily Boost Breast Radiotherapy

Written by Emma Hitt Nichols, PhD

A weekly concomitant boost to the tumor bed during prone breast radiotherapy had comparable efficacy but a trend toward more satisfactory cosmetic outcomes than did daily boost therapy, according to Benjamin Cooper, MD, New York University Radiation Oncology, New York, New York, USA, who presented data from a prospective randomized trial comparing 2 schedules of adjuvant radiotherapy.

A preliminary study demonstrated the safety of prone breast radiotherapy with daily boost radiation. The majority of radiation treatment schedules require a weekend break from therapy, when potential tumor repopulation could occur. The current study investigated an alternate adjuvant therapy schedule with a single weekly boost before the weekend break to combat this repopulation.

A total of 400 patients with stage 0 to II breast cancer were randomly assigned to either a tumor bed boost of 0.5 Gy delivered daily (arm 1) or an equivalent boost of 2 Gy delivered once every Friday (arm 2). Both groups received weeklong intensity-modulated radiation therapy of 40.5 Gy in 15 fractions of the whole breast. All patients had previous partial mastectomy with negative margins and were stratified according to previous chemotherapy and menopause status.

At a median follow-up of 40 months, there were no differences in recurrence-free survival between the 2 arms (98% vs 97%; log-rank $P = .7$). There were no mortalities in either arm due to breast cancer. There were 1 local and 2 distant recurrences in arm 1. There were 3 local and 1 distant recurrences in arm 2. General patient and tumor characteristics were similar in both groups at this time point. Descriptions of appearance outcomes from 280 patients showed a trend that more women in arm 2 reported good or excellent cosmesis than those in arm 1 (88% vs 80%; $P = .08$; Table 1).

Table 1. Patient-Reported Cosmetic Outcomes, No. (%)

Outcome[a]	Arm 1: Daily Boost	Arm 2: Weekly Boost
Excellent (9-10)	56 (39.7)	62 (44.6)
Good (7-8)	57 (40.4)	60 (43.2)
Fair (5-6)	19 (13.5)	14 (10.1)
Poor (0-4)	9 (6.4)	3 (2.2)

[a]Outcomes based on the Radiation Therapy Oncology Group's Late Effects in Normal Tissues–Subjective, Objective, Management and Analytic scales (laboratory and imaging procedures).

The authors concluded that, at this very early time point, there were no differences in clinical outcomes or safety, based on the schedule of concomitant therapy. However, the cosmetic results trended toward superiority in the once-weekly boost, which may be preferable for treatment.

LTAD Improved Outcomes in Prostate Cancer

Written by Emma Hitt Nichols, PhD

Long-term androgen deprivation therapy (LTAD) was found to be more effective in patients with intermediate and high-risk localized prostate cancer than short-term androgen deprivation (STAD) therapy, according to Almudena Zapatero, MD, Hospital Universitario de La Princesa, Madrid, Spain, who presented the findings of a phase 3 trial that compared LTAD with STAD in patients with intermediate and high-risk localized prostate cancer treated with high-dose radiotherapy to determine superiority.

Previous study findings support that overall survival is improved with hormone therapy and conventional-dose radiotherapy in patients with intermediate and high-risk prostate cancer and that biochemical outcomes as well as clinical outcomes were improved with dose-escalated radiotherapy. In the present multicenter, randomized, phase 3 trial, 355 patients were separated