ELSEVIER

Blood 142 (2023) 298–300

The 65th ASH Annual Meeting Abstracts

ORAL ABSTRACTS

623.MANTLE CELL, FOLLICULAR, AND OTHER INDOLENT B CELL LYMPHOMAS: CLINICAL AND EPIDEMIOLOGICAL

Ultra Low Dose 4 Gy Radiation for Definitive Therapy of Gastric MALT Lymphoma

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Introduction
Definitive treatment for early-stage gastric MALT (mucosa-associated lymphoid tissue) lymphoma typically includes radiation therapy (RT) to doses of 24-30 Gy. Given the favorable prognosis of this disease, there is considerable interest in decreasing the toxicity profile of treatment. We prospectively investigated outcomes using a response-adapted (RA) approach giving an initial 4 Gy (ultra-low dose (ULD)) RT with an additional 20 Gy only for incomplete response (Figure 1). We hypothesized that this RA-approach would maintain excellent outcomes with limited toxicity.
Methods
We performed a single-arm prospective trial of ULD RT in 24 patients (age ≥18 years) with newly diagnosed or relapsed stage I-IV *H. pylori* (HP) negative gastric MALT lymphoma (NCT03680586). Patients with residual lymphoma after HP eradication were eligible. Patients with bulky disease (>10 cm) were excluded. Patients were treated with 4 Gy in 2 fractions and assessed with endoscopy and imaging at 3-4 months post-RT. Patients with a complete response (CR) assessed by endoscopy with biopsies and imaging were observed. Patients with a partial response (PR) by endoscopic, pathologic or radiographic evaluations were re-evaluated in 6-9 months. Biopsy-confirmed residual disease at the second timepoint (9-13 months) or stable disease (SD)/progressive disease (PD) at any time point prompted treatment with an additional 20 Gy in 10 fractions. Systemic therapy was permitted if clinically indicated.
Results
We enrolled 24 patients from 2019-2021. Median age was 67 (range 40-85) with 15 female patients (63%). Patients had stage I (n=20, 83%), II (n=1, 4%), and IV (n=3, 13%) disease. Of 15 tested patients, 4 were positive for t(11;18). Patients had pre-treatment imaging with fluorodeoxyglucose (FDG) positron emission tomography-computed tomography (PET-CT) (n=21), contrasted CT (n=2), and contrasted magnetic resonance imaging (MRI) (n=1).
Eight patients had prior treatment including systemic therapy (n=2, 8%) or antibiotics for HP positive (n=3, 13%) or HP negative (n=3, 13%) disease. Of 3 patients with prior HP positive disease, residual lymphoma was documented after eradication at 18 months (PR), 11 months (SD), and 8 months (disease relapse after CR) post-diagnosis.
Median follow-up for the entire cohort was 34 months (95% CI 22-40) based on the reverse Kaplan-Meier estimator. Sixteen patients had a CR at first evaluation (3-4 months) after 4 Gy, and an additional 4 patients had disease conversion to CR at second evaluation (9-13 months), for a total of 20 patients (83%) who had a CR to 4 Gy at a median time of 4 months (range 3-12). No patients had positive imaging findings with a pathologic CR.
One local relapse occurred 14 months post-treatment after a CR to 4 Gy. This patient received 20 Gy and again experienced a CR.

Four patients received an additional 20 Gy for SD/PD or residual disease after 4 Gy. Two patients received 20 Gy for symptomatic SD at 3-4 months, both with a CR following RA therapy. Two patients received 20 Gy for residual disease at 10 and 13 months. One patient had a CR and one is pending last follow-up.
Two of the 4 patients (50%) with a positive t(11;18) required an additional 20 Gy RT compared with 3 of 11 (27%) patients without the translocation (p=0.56)
The rate of 3-year LC for 23 patients who had complete follow-up was 100%, with 19 of 24 patients (79%) with a CR at last follow-up after only the initial 4 Gy.
One patient with stage IV disease experienced distant relapse with diffuse large B cell lymphoma and is in CR after systemic therapy. No additional patients received systemic therapy after RT. RT was well tolerated with no grade 3 or higher acute or late toxicities.
Conclusions
Most patients with gastric MALT lymphoma experienced a CR after only 4 Gy RT; for those requiring an additional 20 Gy with completed follow-up, all experienced a CR. This strategy could be considered to select only those patients who benefit from longer RT courses and spare most patients from unnecessary treatment toxicity. It is important to allow adequate time for response with this indolent disease. Additional follow-up is required to confirm long-term excellent outcomes with RA ULD treatment.

Disclosures Strati: *ADC Therapeutics:* Membership on an entity's Board of Directors or advisory committees, Research Funding; *Roche Genentech:* Consultancy; *Sobi:* Membership on an entity's Board of Directors or advisory committees, Research Funding; *Hutchinson MedoPharma:* Consultancy; *Astrazeneca Acerta:* Membership on an entity's Board of Directors or advisory committees, Research Funding; *Kite Gilead:* Membership on an entity's Board of Directors or advisory committees, Research Funding; *ALX Oncology:* Research Funding. **Wu:** *Kite Pharma:* Research Funding. **Flowers:** *National Cancer Institute:* Research Funding; *Jannsen Pharmaceuticals:* Research Funding; *Kite:* Research Funding; *Guardant:* Research Funding; *Iovance:* Research Funding; *Genmab:* Consultancy; *Genentech Roche:* Consultancy, Research Funding; *Gilead:* Consultancy, Research Funding; *Xencor:* Research Funding; *TG Therapeutics:* Research Funding; *Takeda:* Research Funding; *Sanofi:* Research Funding; *Pharmacyclics:* Research Funding; *Pfizer:* Research Funding; *Novartis:* Research Funding; *Nektar:* Research Funding; *Morphosys:* Research Funding; *4D:* Research Funding; *Acerta:* Research Funding; *Allogene:* Research Funding; *Amgen:* Research Funding; *Cellectis:* Research Funding; *Adaptimmune:* Research Funding; *Eastern Cooperative Oncology Group:* Research Funding; *Burroghs Wellcome Fund:* Research Funding; *Cancer Prevention and Research Institute of Texas:* Research Funding; *Spectrum:* Consultancy; *SeaGen:* Consultancy; *Ziopharm:* Research Funding; *V Foundation:* Research Funding; *Pharmacyclics Jansen:* Consultancy; *N-Power Medicine:* Consultancy, Current holder of *stock options* in a privately-held company; *Karyopharm:* Consultancy; *Foresight Diagnostics:* Consultancy, Current holder of *stock options* in a privately-held company; *Denovo Biopharma:* Consultancy; *Celgene:* Consultancy, Research Funding; *Beigene:* Consultancy; *Abbvie:* Consultancy, Research Funding; *Bayer:* Consultancy, Research Funding; *CPRIT Scholar in Cancer Research:* Research Funding. **Jain:** *AstraZeneca:* Consultancy, Honoraria. **Neelapu:** *Kite, A Gilead Company:* Consultancy, Other: Advisory Board Member, Research Funding; *Athenex:* Consultancy, Other: Advisory board member; *Sana Biotechnology:* Consultancy, Other: Advisory board member, Research Funding; *Merck:* Consultancy, Other: Advisory Board Member; *Allogene:* Consultancy, Other: Advisory board member, Research Funding; *Morphosys:* Consultancy, Other: Advisory board member; *Caribou:* Consultancy, Other: Advisory board member; *Fosun Kite:* Consultancy, Other: Advisory board member; *Janssen:* Consultancy, Other: Advisory board member; *Chimagen:* Consultancy, Other: Advisory board member; *Takeda:* Consultancy, Other: Advisory board member; *Immunoadoptive Cell Therapy Private Limited:* Consultancy, Other: Scientific Advisory Board; *Orna Therapeutics:* Consultancy, Other: Advisory board member; *Carsgen:* Consultancy; *Synthekine:* Consultancy, Other: Advisory board member; *Bluebird Bio:* Consultancy, Other: Advisory board member; *Astellas Pharma:* Consultancy, Other: Advisory board member; *Bristol Myers Squibb:* Consultancy, Other: Advisory Board Member, Research Funding; *Adicet Bio:* Consultancy, Other: Advisory board member, Research Funding; *Incyte:* Consultancy, Other: Advisory board member; *Precision Biosciences:* Research Funding; *Longbow Immunotherapy:* Current holder of *stock options* in a privately-held company; *N/A:* Patents & Royalties: Related to cell therapy and the safety switch described (intellectual property); *Sellas Life Sciences:* Consultancy, Other: Advisory board member. **Nastoupil:** *Gilead Sciences/Kite Pharma:* Honoraria, Research Funding; *AstraZeneca:* Honoraria; *Genentech, Inc., Genmab, Gilead/Kite, Janssen, Merck, Novartis, Takeda:* Honoraria, Research Funding; *Regeneron:* Honoraria; *Daiichi Sankyo:* Honoraria, Research Funding; *DeNovo:* Honoraria; *Caribou Biosciences:* Honoraria, Research Funding; *Bristol Myers Squibb/Celgene:* Honoraria, Research Funding; *ADC Therapeutics:* Honoraria; *AbbVie:* Honoraria. **Pinnix:** *Merck:* Research Funding.

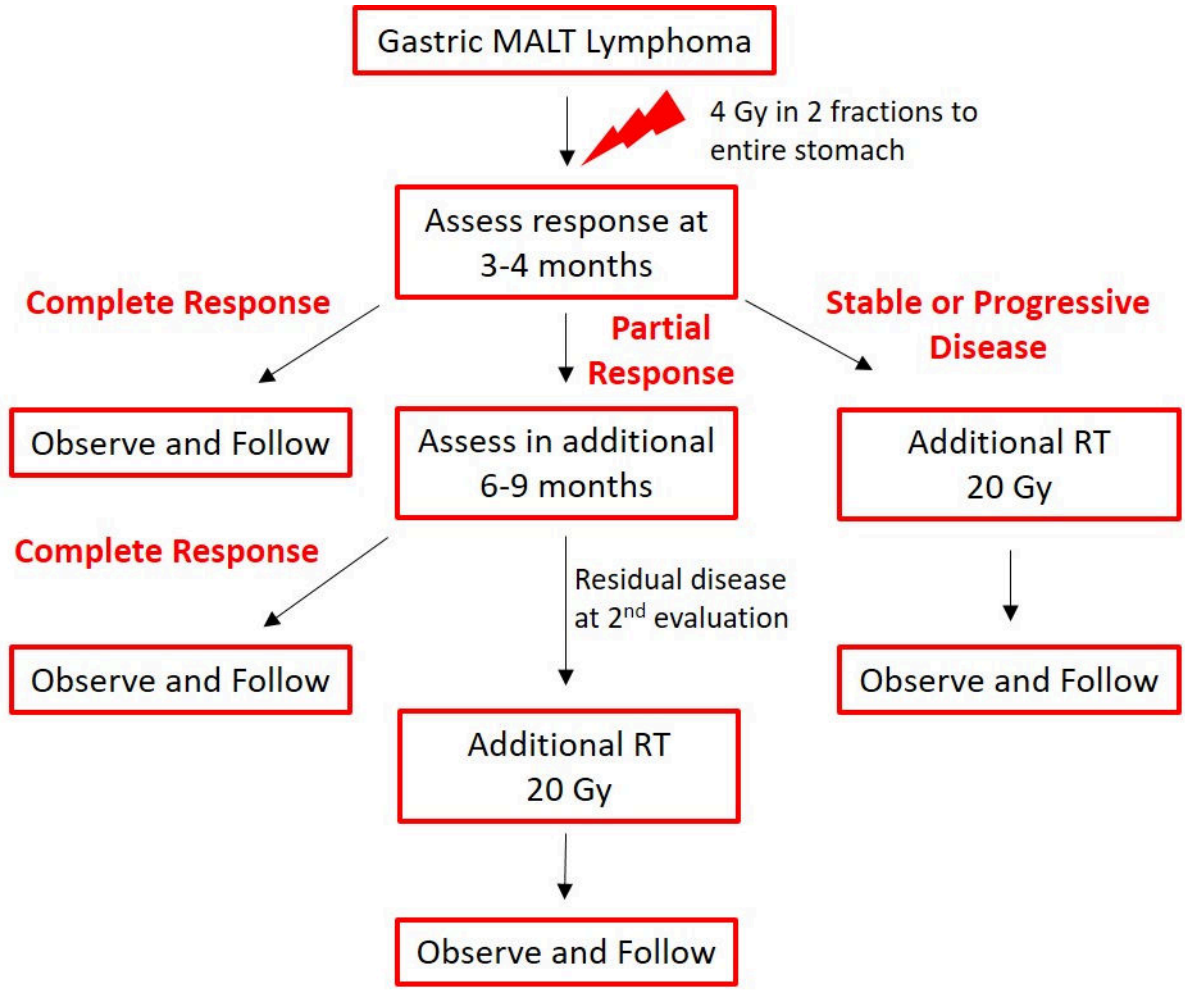

Figure 1. Algorithm outlining the approach to response-adapted therapy using an initial 4 Gy, followed by treatment with an additional 20 Gy for those with an incomplete response.

Figure 1

https://doi.org/10.1182/blood-2023-181757