Esophagus

Randomised Study on Dose Escalation in Definitive Chemoradiation for Patients With Locally Advanced Esophageal Cancer (ARTDECO Study).

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PURPOSE

To analyse the effect of radiation dose escalation to the primary tumour on local tumour control in definitive chemoradiation (dCRT) for patients with esophageal cancer.

PATIENTS AND METHODS

Patients with medically inoperable and/or irresectable esophageal carcinoma, referred for dCRT, were randomly assigned between a standard dose (SD) of 50.4 Gy/1.8 Gy for 5.5 weeks to the tumour and regional lymph nodes and a high dose (HD) up to a total dose of 61.6 Gy to the primary tumour. Chemotherapy consisted of courses of concurrent carboplatin (area under the curve 2) and paclitaxel (50 mg/m2) in both arms once a week for six weeks. The primary end point was local progression-free survival.

RESULTS

Between September 2012 and June 2018, 260 patients were included. Squamous cell carcinoma (SCC) was present in 61% of patients, and 39% had adenocarcinoma (AC). Radiation treatment was completed by 94%, and 85% had at least five courses of chemotherapy. The median follow-up time for all patients was 50 months. The three-year local progression-free survival (LPFS) was 70% in the SD arm versus 73% in the HD arm (not significant). The LPFS for SCC and AC was 75% versus 79% and 61% versus 61% for SD and HD, respectively (not significant). The three-year locoregional progression-free survival was 52% and 59% for the SD and HD arms, respectively (P = .08). Overall, grade four and five common toxicity criteria were 12% and 5.0% in the SD arm versus 14% and 10% in the HD arm, respectively (P = .15).

CONCLUSION

In dCRT for esophageal cancer, radiation dose escalation up to 61.6 Gy to the primary tumour did not result in a significant increase in local control over 50.4 Gy. The absence of a dose effect was observed in both AC and SCC.