18F-FDG PET/CT as a potential predictor of survival in patient with oesophageal cancer: a preliminary result

ABSTRACT

Aims: A study was undertaken to investigate the value of pretreatment PETï CT in predicting survival in patients with oesophageal cancer (OC). Methods: Between June 2010 and December 2011, 18 consecutive OC patients median (61.00 ± 12.07 years) with median survival of 7.5 month had a pretreatment PETï CT scan. Staging of the disease was made in accordance to the American Joint Committee on Cancer staging system (7th edition) and grouped as stage Iï IIA and stage IIBï IV. Maximum standardized uptake value (SUVmax), size of a primary tumour and the presence of fluorodeoxyglucose (FDG)-avid lymph nodes were evaluated for all patients. Survival was analysed using the Kaplanï Meier product limit method and Cox proportional hazards regression model. Results: PETï CT stages Iï IIA and IIBï IV had a 1-year survival of 50% and 25%, respectively. Patient with size of primary tumour (<4.5 cm) had significantly ($p < 0.036$) better survival than those with large size (>4.5 cm). Multivariate Cox regression analysis showed that SUVmax of >5.5 in the primary tumour [hazard ratio (HR) 23.017; 95% confidence interval, $p = 0.038$] and the presence of FDG-avid lymph node (HR 1.248; $p = 0.028$) were strongly predictive of poor overall survival on multivariate analysis. Conclusion: Pretreatment 18F-FDG PETï CT SUVmax of a primary tumour and the presence of FDG-avid lymph nodes independently predict survival in patients with oesophageal carcinoma which may potentially be used as surrogate markers for prognostic and therapeutic purposes.

Keyword: Oesophageal carcinoma; FDG PET; PEï CT; Survival; SUVmax