Serial comprehensive geriatric evaluation in elderly head and neck cancer patients undergoing radiotherapy

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Background: Elderly head and neck (H&N) cancer patients can present with significant co-morbidities whilst treatment induces additional morbidity. Comprehensive geriatric assessment (CGA) has been proposed as a key treatment approach in elderly cancer patients. We studied the feasibility of serial CGA during radiotherapy in this population.

Material and methods: Patients aged $\geq$ 65 years with primary H&N cancer undergoing curative radiotherapy (with or without systemic treatment), were evaluated by the screening instruments Vulnerable Elders Survey-13 (VES-13) and G8, and CGA, at baseline and in the 4th week of their treatment at General Hospital Groeninge or Ghent University Hospital.

Results: Ninety eligible patients with a median age of 72 (range 65-87) consented. Patients mostly presented with an advanced stage tumour (67.8%, stage III-IV) of the larynx (46.7%) and pharynx (32.2%). Thirteen patients declined assessment in the 4th week of therapy. Of those patients, one withdrew from further study participation, one died and in two patients, a change of therapeutic intent was indicated. Nine patients declined because they felt too ill. At baseline, 40.3%, 64.9% and 71.4% of patients were defined vulnerable, based on respectively VES-13 (cut-off $\geq$3), G8 (cut-off $\leq$14) and CGA (defined as impairments in two or more domains). Significantly more patients were considered vulnerable at week 4 by VES-13 (55.8%, $P<0.0001$), G8 (90.9%, $P<0.0001$) and CGA (81.8%, $P<0.05$). Patients presented with deficits in the following domains: co-morbidity (CIRS-G), nutrition (MNA), community functioning (IADL), physical status (Tinetti), self-care (ADL), emotional wellbeing (GDS) and cognition (MMSE) at both points in time. In addition, the incidence of vulnerability in all health domains increased during treatment, with especially deterioration of nutritional ($P<0.0001$), functional ($P<0.0001$), mental ($P<0.01$) and emotional ($P<0.01$) status.

Conclusions: Serial CGA identifies multidimensional health problems and their evolution during radiotherapy. It indicates the need for re-evaluation of a patient's health status and could guide intensive supportive care in elderly patients treated for H&N cancer.