Characterisation and classification of oligometastatic disease: a European Society for Radiotherapy and Oncology and European Organisation for Research and Treatment of Cancer consensus recommendation

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Abstract

Oligometastatic disease has been proposed as an intermediate state between localised and systemically metastasised disease. In the absence of randomised phase 3 trials, early clinical studies show improved survival when radical local therapy is added to standard systemic therapy for oligometastatic disease. However, since no biomarker for the identification of patients with true oligometastatic disease is clinically available, the diagnosis of oligometastatic disease is based solely on imaging findings. A small number of metastases on imaging could represent different clinical scenarios, which are associated with different prognoses and might require different treatment strategies. 20 international experts including 19 members of the European Society for Radiotherapy and Oncology and European Organisation for Research and Treatment of Cancer OligoCare project developed a comprehensive system for characterisation and classification of oligometastatic disease. We first did a systematic review of the literature to identify inclusion and exclusion criteria of prospective interventional oligometastatic disease clinical trials. Next, we used a Delphi consensus process to select a total of 17 oligometastatic disease characterisation factors that should be assessed in all patients treated with radical local therapy for oligometastatic disease, both within and outside of clinical trials. Using a second round of the Delphi method, we established a decision tree for oligometastatic disease classification together with a nomenclature. We agreed oligometastatic disease as the overall umbrella term. A history of polymetastatic disease before diagnosis of oligometastatic disease was used as the criterion to differentiate between induced oligometastatic disease (previous history of polymetastatic disease) and genuine oligometastatic disease (no history of polymetastatic disease). We further subclassified genuine oligometastatic disease into repeat oligometastatic disease (previous history of oligometastatic disease) and de-novo oligometastatic disease (first time diagnosis of oligometastatic disease). In de-novo oligometastatic disease, we differentiated between synchronous and metachronous oligometastatic disease. We did a final subclassification into oligorecurrence, oligoprogression, and oligopersistence, considering whether oligometastatic disease is diagnosed during a treatment-free interval or during active systemic therapy and whether or not an oligometastatic lesion is progressing on current imaging. This oligometastatic disease classification and nomenclature needs to be prospectively evaluated by the OligoCare study.