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Treatment Response and Acute Toxicity Evaluation of 70 Gray Radiation in Nasopharyngeal Carcinoma Patients in Dr Soetomo Hospital, Surabaya

Abstract

Nasopharyngeal carcinoma (NPC) is the most common malignancy of head and neck cancer in Indonesia. Radiotherapy is the mainstay of treatment for NPC. Usually external beam radiation treatment is performed with a dose of 60-70 Gy. Result of irradiation treatment is influenced by some prognostic factors including gender, age, tumor stage, histopathologic and hemoglobin level. In addition to eradicate tumor cell, irradiation treatment also influences acute effect (acute toxicity) of normal tissue surrounding tumor as well as late effect. This study was performed with an observational cohort retrospective analysis, which analyzed 54 patients of NPC who had undergone irradiation with cumulative dose of 70 Gy for evaluating the correlation between some prognostic factors and treatment response, and for evaluating acute toxicity. There was positive correlation between tumor stage and irradiation treatment response, proven by Kruskal-Wallis statistic analysis (p = 0.021). Meanwhile, by using Fisher Exact one-tail method there were statistically significant association of irradiation treatment response between patient with stage III and stage IV (p = 0.035 and Odds Ratio = 10.8). The patient with stage III shows predominant risk to have complete response comparing with partial response which 10.8 times higher than those in stage IV. It indicated that dose given of 70 Gy for NPC patients in the early stage had a better treatment response. There were no significant correlation between sex, age, histopathologic and hemoglobin level with irradiation treatment response (p > 0.05). Radiation toxicity was calculated by LENT SOMA scale. Most radiation toxicity was acute with moderate toxicity (grade II).

Keyword : NPC, prognostic, factor, treatment, response, radiation, toxicity.