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Cellular oxidative stress in patients with head and neck cancer in treatment with cisplatin and radiotherapy

Patricia Moriel

State University of Campinas, Brazil

Cancer is one of the biggest public health problems, especially head and neck cancer, being the fifth most prevalent neoplasia in the World. The most effective treatment for head and neck cancer is radiotherapy along with high doses of cisplatin as chemotherapy, but its use is restricted because of the cisplatin's toxicity, that is caused principally by oxidative stress. This is a primary study, since previous studies on literature evaluated cellular oxidative stress only on animal models. The purpose of this study is to evaluate cellular oxidative stress on patients with head and neck cancer in treatment concomitant with radiotherapy and cisplatin. This is a prospective clinical and observational study at a hospital in Brazil, started in February 2015 and in continuity at the present moment. Before and after five days of the first chemotherapy cycle, blood of patients was collected to study through the MitoSox Red, H₂DCF-DA (2',7-dichlorofluorescein) and Amplex Red tests to determinate cellular oxidative stress. The tests were done with the blood samples of ten patients before and after first cycle of chemotherapy. MitoSox Red test showed variation from 509.94±303.11 to 495.96±316.00 A.F.U. (p=0.9152); H₂DCF-DA test varied from 828.52±315.79 to 1258.93±1241.93 A.F.U. (p=0.3702); and Amplex Red test from 6.63x10⁻¹⁵±7.30x10⁻¹⁵ to 6.09x10⁻¹⁵±5.68x10⁻¹⁵ H₂O₂/s (p=0.8334). The tests did not show a significant difference between that realized before and after chemotherapy. It is necessary for a bigger number of patients inclusion.

Biography

Patricia Moriel has completed his PhD at the age of 29 years from University of São Paulo (Brazil). She is a professor and director of a research team focusing on pharmacovigilance and pharmacotherapy at University of Campinas, Brazil. In the last year she has published 10 papers in reputed journals.

morielpa@fcm.unicamp.br

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