

B16 PIGMENTED MELANOMA TUMOR REMISSION WITH METHYLENE BLUE AND PHOTODYNAMIC THERAPY IN HRS/J HAIRLESS MICE

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Methylene Blue (MB) is an inexpensive and nontoxic phenothiazine dye, which has intense and broad-band red light absorption, large photodynamic efficiency, and affinity to melanin, mitochondria and presented efficacy in clinical melanoma treatments. We studied the efficacy of MB-PDT treatment to kill induced B16 pigmented melanoma in HRSJ-hairless mice and conducted histological and immunohistochemical experiments to determine, respectively, necrosis and expression of proliferating cells nuclear antigen (PCNA), a common marker of cancer prognosis. Three days after the treatment, the volume of irradiated tumors decreased by ~75% (128 mm³) and by 93% 10 days after initial treatment. However, in non-treated animals the tumoral volume increased by more 70%, reaching 1843 mm³ after 26 days (10th day after treatment). 60 days after treatment, the tumors disappeared in treated animals, which were considered cured. HE- cored cells taken from the tumor show extensive necrosis areas in the group treated with PDT normal tumor cells in the control group. PCNA had normal expression in the control group and show expressive decrease in the treated group. The cells that responded better to PDT had the smallest expression of PCNA. In conclusion MB and PDT is efficient in reducing tumorigenicity and in provoking tumor remission. FAPESP is acknowledge.