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Dynamics of IL-1 β , arginase, and NO synthase levels in mouse brain homogenates following proton irradiation at the Bragg peak in the short and long term.

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The investigation of biological mechanisms underlying the effects of radiation on the human body remains highly relevant due to its profound medical and social importance. According to existing literature, the repair of radiation-induced tissue damage involves an acute phase marked by elevated oxidative stress. This response results from the activation of resident macrophages, which express high levels of inducible nitric oxide synthase (iNOS) and the pro-inflammatory cytokine interleukin-1 (IL-1). Following this initial phase, a recovery phase occurs, characterized by increased infiltration of myeloid cells and elevated expression of arginase-1 (Arg-1). This study aimed to assess the levels of the pro-inflammatory cytokine IL-1 β , arginase, and inducible nitric oxide synthase in mouse brain homogenates after proton irradiation at the Bragg peak, in both short- and long-term periods.

Summary

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