

Hydrogen, a Novel Therapeutic Molecule, in Osteosarcoma Disease

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Abstract : Hydrogen has a high level of efficacy in suppressing tumour growth. The role of hydrogen in cancer treatment is unclear. This groundbreaking research will focus on the most effective therapeutic approach for osteosarcoma. Recent data reveals that hydrogen, a naturally occurring gaseous chemical, can protect cells from death. However, little is known about the signalling pathways that regulate cardiac cell death and individual apoptosis signalling by H₂ and its downstream targets. According to certain research, the anti-tumor effect of H₂ released by magnesium-based biomaterials is mediated by the P53-mediated lysosome-mitochondria apoptosis signalling pathway, bolstering the biomaterial's therapeutic potential as a localised anti-tumor treatment. The role of the H₂ molecule in the signalling of apoptotic, autophagic, necroptotic, and pyroptotic cell death in Osteosarcoma is discussed in this paper. Potential Hydrogen-based therapy techniques will broaden the treatment horizon for Osteosarcoma.

Keywords : osteosarcoma, metastasis, hydrogen, therapeutic

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