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Development, physicochemical and cytotoxic evaluation of polymeric nanocarriers for dual delivery of metal-based anticancer drugs and potentiating agents

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Platinum based drugs are used for treatment of various types of cancers. However, they suffer from severe limitations such as drug resistance, non-selectivity resulting in severe drug toxicity like nephrotoxicity, neurotoxicity, ototoxicity etc., and short residence time in the central circulation system as a result of rapid excretion and poor water solubility. To improve the therapeutic effects of platinum drugs, they are used in combination with DNA-demethylating agent incorporated onto drug delivery systems and incorporated onto drug delivery systems together with potentiating agents that are non-chemotherapeutic agents. In this research polymeric nanocarriers were designed for incorporation of platinum (II) drugs for long and short term administration. Platinum (II) complex was incorporated onto polymeric nanocarriers together with potentiating agents or DNA-demethylating agents. The physicochemical properties and cytotoxic effects of the nanocarriers were evaluated and the results suggested that the nanocarriers are potential drug delivery systems for combination therapy.

Biography

B A Aderibigbe has completed her PhD from University of Witwatersrand in 2010. She did her Postdoctoral studies at the University of Johannesburg, South Africa and Tshwane University Technology, South Africa from 2010 to 2014. She is a Lecturer at the University of Fort Hare, South Africa.

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