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Using Microbubbles as Target Drug Delivery to Improve Aids

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No preventive vaccine are available for the treatment of AIDS. To improve therapy combinational antiretroviral drugs are given however some patient develop resistance to particular combinational drug. Microbubble mediated drug delivery technology solve that problem with reducing systemic dose and toxicity. Microbubbles are bubbles smaller than one millimetre in diameter but larger than one micrometer. The general composition of microbubble is gas core. The mechanism of microbubbles through which its delivery get increases are sonoporation, the formation of openings in the vasculature, induced by ultrasound-triggered oscillations and destruction of microbubbles. Rapid isolation strategy of CD4⁺ cells is mixing blood and glass microbubbles which then bind with the specific target cells to the microbubble carrying specific antibodies on their surface. The target cells will spontaneously float to the top of the blood vial and can be quickly separated. This strategy for cell isolation based on buoyancy and glass microbubbles is quick and inexpensive, minimizes blood handling, does not require magnetic fields or centrifugation equipment, and could lead to new, efficient strategies for AIDS diagnosis in resource-limited areas. This review, demonstrate the problems with the current treatment of the disease and shed light on the remarkable potential of microbubbles to provide more effective treatment and prevention for HIV/AIDS by advancing antiretroviral therapy, gene therapy, immunotherapy, vaccinology and microbicides.

Keywords: Microbubbles HIV/AIDS, Target Drug Delivery.

Biography:

Harsha Virsingh Sonaye has a Life Membership in Association of Pharmacy Teacher of India, She has 8 research/review in International Publication and 2 research /reviews in National Publication, she presented 10 Poster Presentations in National Conferences and She attend 4 International Conferences and 29 National Conferences.