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Antibodies based drug delivery system, a dynamic tool in the clinical management of breast cancer

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The chemotherapeutic management of cancer with convection drugs presents some serious clinical important adverse drug reactions. These Adverse Drug Reactions (ADR) may lead to withdrawal and non compliance of patients with dosage regimens. ADR to cytotoxic drugs are link to non specific distribution pattern within the biological system, since most cytotoxic agents will also effectively kill healthy living cells. Target delivery of chemotherapeutic drugs aims to selectively deliver drugs to the tumor cells, by altering the pharmacokinetic profile of the formulated chemotherapeutic agent. Antibodies based drug delivery system is one of the several target delivery strategies that is recently receiving a renew attention worldwide. Basically this involves conjugation reactions which linked cytotoxic agent with human antibodies that are capable of recognizing tumor specific antigens such as Epidermal Growth Factor Receptor (EGFR), carciniembryonic antigen and prostrate carcinoma antigen. The extraction of humanized immunoglobulin follows a simple centrifugation and colon separation techniques, while the conjugation reaction involve the use of suitable non- toxic linker to incorporate the drugs with the antibodies. Methotrexate, a folic acid reductase inhibitor was selected as the drug of choice due to general action against various types of cancer. The administration of the drug was done intravenously over 24 hours. Patients enrolled in this study (88) showed improved tolerability and acceptability with no occurrence of adverse drug reactions such as weigh lost, vomiting, puritus, and hair loss. Also improved were the nursing time, and the therapeutic cost, with only two patients refer for surgical intervention at the end of the study.

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