

## Design and evaluation of controlled release mucoadhesive microparticles of Clonazepam

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The present study aims at preparation and evaluation of mucoadhesive microparticles containing clonazepam. Clonazepam is a benzodiazepine derivative which is used as an adjunct therapy for the treatment of partial, absence seizures and in acute control of status epilepticus. Single emulsion solvent evaporation method was employed for the preparation of microparticles. Eudragit® RL 100 and Ethyl cellulose were used as mucoadhesive and controlled release polymers. Different proportions of Eudragit® RL 100 and ethyl cellulose (80:20, 70:30 and 50:50) were used in the preparation of microparticles. The obtained microparticles were evaluated for particle size, drug content, entrapment efficiency, in-vitro drug release and drug-excipient compatibility were also performed. The clonazepam microparticles were porous due to rapid extraction of organic solvent and showed entrapment efficiency up to 37.6%. Particle size of the prepared microparticles ranged between 32.31-42.65 µm. Increase in PVA concentration from 0.5 to 1% w/v resulted in decreased particle size. It has been found that drug release was more sustained with an increase in Eudragit RL 100 proportion. FTIR spectra of drug loaded microparticles did not show any significant interactions between drug and excipients. These controlled release mucoadhesive microparticles prepared can be used as an efficient drug delivery system for nasal and buccal routes.

## Control of irratic proliferation of leukemic cells from the bone marrow and peripheral blood by bark powder of walking mango tree (*Mangifera indica*) (*Anacardaceae*)

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The aim of our study is to check whether the bark of the walking mango tree (*mangifera indica*) exhibit any control on the proliferation of malignant leukemic cells in bone marrow and peripheral blood.

Bone marrow and the peripheral blood sample containing more number of leukemic cells were collected from M.S.Ramaiah Hospital and with the standard values of the samples were incubated for 24 hours with 0.5gms of bark powder and along with 0.5gms of powder 1ml of water (dilution) and parallely control samples were maintained without the bark powder. 10 repeats were done, the result shows that the haemocytometer cell counts were conducted, in the control 100% increase of cells were noticed whereas in the bone marrow after 24 hours of incubation only an average of 4 cells were remaining and the dilution shows no cells and in the peripheral blood sample only 2 cells on average of cells were remaining and in the dilution shows no cells. So it is recorded that both bone marrow and peripheral blood the dilution samples shows total inhibition of proliferation of leukemic cells and the powder shows 98-99% inhibition of proliferation of the leukemic cells this will be discussion in the paper.