SHORT COMMUNICATIONS

STUDY OF EFFECT OF β-CYCLODEXTRIN ON PHYSICAL STABILITY OF LIQUID PARAFFIN EMULSIONS

ABSTRACT

Cyclodextrins form inclusion complexes with a variety of drug molecules, resulting in applications like improvement of dissolution rate, bioavailability and stability. The objective of the present work was to study the effect of β-cyclodextrin on the physical stability of liquid paraffin oral emulsions. Physical stability plays a crucial role in the assessment of quality of an emulsion. Five emulsion formulations were prepared, with different percentages of β-cyclodextrin. Wet gum method was used for preparing all the liquid paraffin emulsions. Various evaluation tests like dye test, pH, density, viscosity, centrifugation and globule size analysis were conducted for the prepared emulsions. Stability of all the emulsions prepared in the laboratory were found to be satisfactory after one month of storage at room temperature. The liquid paraffin emulsions formulated by employing combination of acacia and β-cyclodextrin have shown significant enhancement in physical stability when compared with those containing β-cyclodextrin and acacia alone. It might be due to the formation of inclusion complexes of β-cyclodextrin with the oil phase at the interfacial boundary. In the present work, formulation F4 containing 1.5% β-cyclodextrin has shown the optimum physical stability among the emulsions prepared in the laboratory.