Abstract

Our work aims to study the effect of metal nanoparticles of iron oxide and slice dioxide on the egg morphology of Helix aspersa snails.

In this study we are interested in evaluating the impact of these NPs on an organism bioaccumulator and bioindicator of pollution of the environment. The toxicity of NPs of silica dioxide and iron oxide is determined in the Helix aspersa snail using laboratory biotest in eggs exposed to increasing concentrations of (SiO_2 and Fe_2O_3) (1mg /ml, 3mg/ml, 5 mg /ml, 10mg /ml, 15 mg /ml).

Their effects were first studied during the embryonic phase (general diameter and shape of the eggs, hatching and mortality count), we evaluated the embryotoxicity and verified the influence of these NPs up to the juvenile stage by monitoring the evolution of the average weight of juveniles.

The results of the embryonic phase show that the presence of metal nanoparticles based on (SiO_2 and Fe_2O_3) caused a non-significant increase in egg diameter, deformations and swellings of the egg membrane during incubation as well as a low Mortality rate is marked in spat after hatching success. Regarding the juvenile phase a decrease in average weight is noted in the treated compared to controls.

Key words: *Helix aspersa*, Iron oxide, Silicon dioxide, embryonic phase, juvenile phase and nanoparticles.