EVALUATION OF THE EMBRYOTOXIC POTENTIAL OF DIFFERENT FORMULATIONS OF IVERMECTIN USING THE ZEBRAFISH (*Danio rerio*) MODEL SYSTEM.

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INTRODUCTION: Ivermectin is an antiparasitic drug widely used during the pandemic despite lacking proven efficacy. Toxicity depends on the composition and exposure route, but each formulation's impacts remain poorly understood. The prolonged presence of this drug in the environment could increase contamination risks and adversely affect non-target organisms. **OBJECTIVE:** This study investigated the potential toxicity of different ivermectin formulations on the early development of zebrafish. **MATERIAL AND METHODS:** The tests followed OECD Guideline No. 236 (FET). Embryos aged up to 4 hours post-fertilization (hpf) were exposed to different concentrations (0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 1, 2.5, 5, and 10 mg/L) of the active ingredient as well as a human-use tablet formulation for 120 hours in 12-well microplates, with 10 embryos per well. For each concentration, 20 embryos per replicate were exposed under semi-static conditions, with the medium renewed every 48 hours (accounting for ivermectin's half-life). During the experiments, lethal and hatching effects were evaluated. LC_{50} and EC_{50} values were calculated using the R software. **RESULTS AND CONCLUSION:** The analysis indicated that the human-use tablet (120h LC_{50} = 0.686 mg/L) was more toxic than the active ingredient (120h LC_{50} = 0.972 mg/L). Sublethal effects included delayed hatching rates. For the active ingredient formulation, the hatching rate showed a 72h EC_{50} of 0.738 mg/L and a 120h EC_{50} of 3.047 mg/L, whereas the tablet exhibited values of 0.526 mg/L and 1.430 mg/L, respectively. Notably, some skeletal abnormalities were observed in both exposure groups, suggesting possible effects on bone development (to be further investigated). The results demonstrate that ivermectin toxicity varies by formulation, affecting both embryo lethality and hatching rates. These findings underscore the need for further research into the toxicological impacts of different ivermectin formulations, particularly during early development.

Keywords: zebrafish; ivermectin; embryotoxicity; formulations.

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