

Teratogenic effects of metronidazole and miconazole co administration in mice fetuses

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Background and Aims: Metronidazole and Miconazole are an active molecules against anaerobic bacteria/ protozoa and fungal respectively. Both together are sometimes used in complex infection diseases as well as common vulvovaginal infections in topical dosage forms that may absorb systemically. Indeed they are not teratogenic agents when are used individually, but they have shown teratogenic effects such as: formation of additional ribs, short ribs, and hare lipped, deformation of cranium, ditate of bladder and pyelonephritis, polydactyly and syndactyle during developmental fetus when they are used concomitantly. Due to widespread prscription of metronidazol together with miconazol, their potential teratogenic effects were investigated in mice fetuses.

Methods: Pregnant mice were randomly classified in 5 groups: control, group1 which received 60mg/kg/day metronidazole IP on gestation day- 9, group2 which received 60mg/kg/day miconazole and group3 which received miconazole and metronidazole (at the same doses as above). The cryo-sections of day-15 fetuses were stained with hematoxilin & eosin for the process of histotechnique. It was determined weight and length for morphological studies.

Results: Skeletal defects such as malformation of hands & legs and syndactyle were observed in group3 .This data showed significant difference with control group ($p < 0.001$). It was observed no sign of abnormality in groups of control, sham, exp1 and exp2. In group3, it was observed the forms such as; postpone of development, formation heart in out of embryo.

Conclusions: Following the study about weight of embryos and placenta, measurement of C-R and diameter of placenta, it was observed that all items were reduced significantly in exp3 group compared with control group.

Keywords: Metronidazole; Miconazole; Teratogenic effects; Fetus