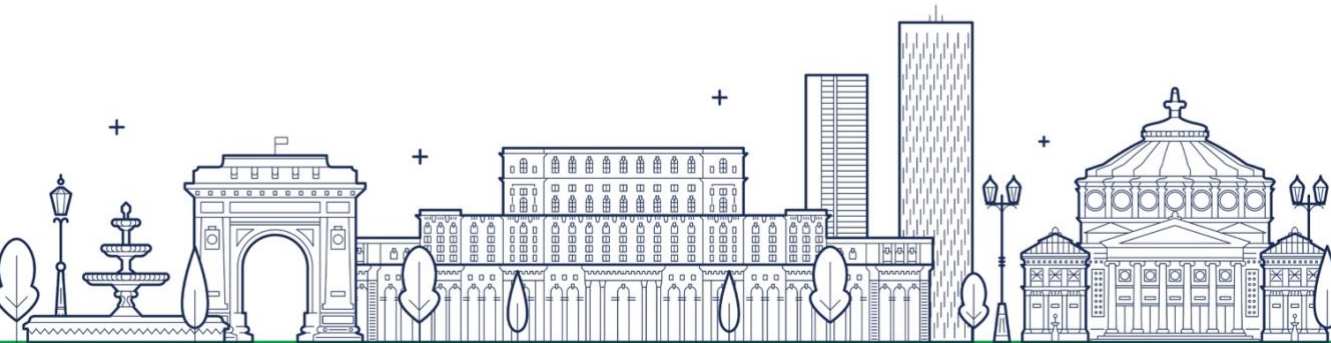


IMSCB

International Medical Students' Congress of Bucharest

Abstracts Book

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The Medical Students' Society of Bucharest

Abstracts Book

**International Medical Students' Congress of
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Heavy Metals Effect on the Chemical Composition Variations in Rat Uterus Tissue

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Introduction: Heavy metals (HM) belong to our vital activity's chemical components, which can be essential, potentially dangerous, and dangerous. Their acceptable concentration present in all layers of the biosphere. Simultaneously, excessive environmental pollution causes the disruption of the living organism's microecology and imbalanced accumulation of HM in the organs. Besides, it is rather difficult to predict the pollutant effect on the body, as the organs and systems may have different sensitivity. One of these organs that can be exposed to the impact of exogenous factors is the uterus. Moreover, the unknown genesis of HM action on the uterus can lead to severe disorders of reproductive health. The aim of our study was to study the peculiarities of the chemical composition accumulation in the rat's uterus wall under the experimental HM salts mixture influence.

Methods: Animals were orally given water with a chemical salts mixture (zinc, copper, manganese, iron, lead, and chromium) for 30 and 90 days to explore the effects of HM accumulation on the rat uterus. The composition of HM was studied by atomic absorption spectrophotometry.

Results: After 30 days of the experiment, chemical analysis of the uteruses tissue showed a significant ($p < 0.001$) increase amount of zinc by 34.11%, copper - 44.83%, manganese - 38.68%, iron - 61.95%, lead - 53.15%, chromium - 47.91%, compared to the control parameters. After 90 days, the levels of Zn, Cu, Mn, Fe, Pb and Cr continued to increase ($p < 0.001$) reaching 49.34%, 61.08%, 63.6%, 86.26%, 88.11% and 73.09%, respectively. Moreover, there was a significant difference ($p < 0.01$) of their levels between 30 and 90 days of the experiment.

Conclusion: The long (30 and 90 days) exogenic HM salts mixture impact on the organism contributes to a significant their increase in the rat's uterus tissue. The percentage of HM accumulation varied and depended on the cumulative properties of each element. The intensity of their accumulation decreased with the experiment prolongation.

Keywords: heavy metals; uterus; rat; chemical analysis; heavy metal salts

