

## **Lysosome of testicular cells a site of indium concentration. An ultrastructural study**

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Indium is known as a contaminant for the environment, air, water and human beings bodies because of its different uses [1, 2]. In medical field its first reported application still the radiopharmaceutical agents which could be divided into two groups: pharmaceuticals for dynamic functional studies of several organs and pharmaceuticals for pathologies localization in the body (tumours, infarcts, lung fibrosis...) [3]. Indium is also used as an additive to gold-based dental. In industry the indium is used as semi-conductor and lamps engineering.

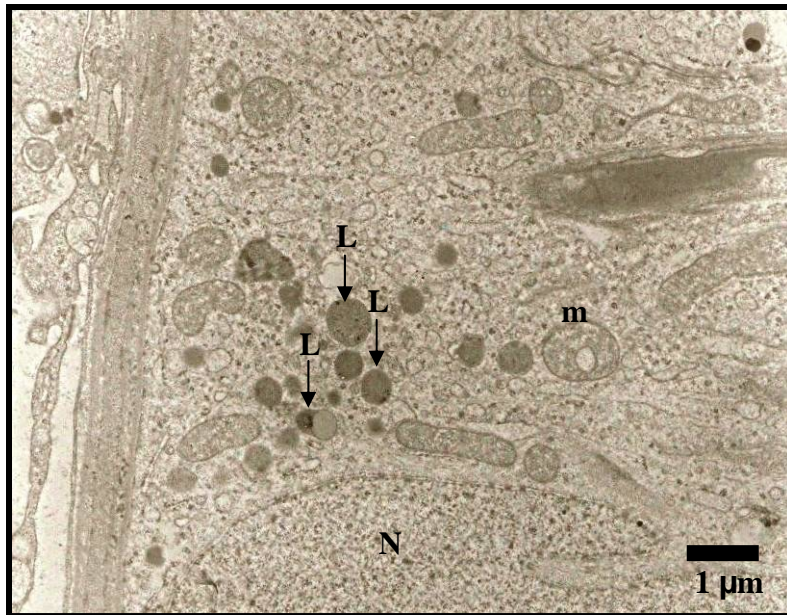
In this work we have undertake to study the intracellular behaviour of indium, in the testicular tissue of male wistar rat, after its intraperitoneal administration as a soluble solution.

Two groups composed each of 8 male wistar rats received intraperitoneally a soluble solution of indium sulphate or a factice in the same experimental conditions. All the animals were treated for two weeks. At the 15<sup>th</sup> day testes were removed for ultrastructural study using the conventional transmission electron microscope.

Our ultrastructural observations showed that this element is concentrated as insoluble electron dense deposits in the lysosomes of the Sertoli cells, known to have a role of protection and nutrition of spermatogenic cells (figure 1). Furthermore, macrophage cells observed in interstitial testicular tissue contain some charged lysosomes (figure 2). No deposits were seen in the Sertoli cells and macrophages of control testicular tissues. These electron dense deposits are probably indium insoluble clusters since our previous studies demonstrated that indium is concentrated and insolublized in the lysosome of intestinal, renal, hepatic and glandular epithelial cells. So lysosomes of Sertoli cells and macrophages seem to be a site of insolublization and sequestration of indium to prevent intoxication.

More sensitive techniques such as microanalysis will be used to determine and confirm the chemical nature of the observed deposits in the lysosomes.

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**Figure 1.** This image showed insoluble electron dense deposits in the lysosomes (L) of the Sertoli cells of the testicular section of indium treated rats. Nucleus (N), mitochondria (m). magnification: x 6000.



**Figure 2.** This image showed insoluble electron dense deposits in the lysosomes (L) of the interstitial macrophages of the indium treated testicular section. Nucleus (N). magnification: x 4000.