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P23. THE TOXIC EFFECTS OF ARSENIC ON THE HEMATOPOIETIC SYSTEM

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Arsenic is a metalloid found in water, air, and soil from both natural and anthropogenic sources and exists in organic as well as inorganic forms. Arsenic toxicity is being a global health issue influenc-ing millions of people, except from causing cardiovascular, gastrointestinal, genitourinary, respirato-ry, endocrine, hematopoietic system and skin diseases, neurologic consequences in adults is also associated with acute and chronic arsenic exposure. The hematopoietic system, which is one of the largest organs in the body, is consist of all blood-forming tissues and circulating blood cells. The major function of the hematopoietic system is hematopoiesis, the repeated production of highly spe-cialized mature circulating blood cells responsible for immune (leukocytes), respiratory (hemoglobin in erythrocytes), and hemostatic (thrombocytes/platelets) processes. This system is known to be re-markably vulnerable to change by different drugs and other environmental chemicals, especially trace metals, and it is altogether appropriate, thus, it is regarded as a potential target system for ar-senic compounds in animals which are chronically exposed to these agents. Arsenic exposure influ-ences hematopoietic system including erythrocytes, bone marrow and spleen. Chronic arsenic expo-sure via medication, drinking water or in occupational settings has been associated to hematopoietic changes, such as erythropoiesis, severe granulocytopenia, and infrequently megaloblastic changes, and liver damage. Millions of populations throughout the world continue to be chronically exposed to As by contaminated water and diet, therefore, the necessity for further effort to examine in utero and early life exposure to As is important and essential to defining the potential long-term health consequences of this ubiquitous toxicant.

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