

TRANSIENT AND TARGET ANIMAL TISSUES IN BIOACCUMULATION OF XENOBIOTICS

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Anca-Narcisa NEAGU¹, Ionel MIRON^{1,2}

¹ Faculty of Biology, „Alexandru Ioan Cuza” University of Iași, Romania, aneagu@uaic.ro

²Academy of Romanian Scientists 54 Splaiul Independentei 050094, Bucharest,

Abstract. Xenobiotics are more and more present in our environment and consequently in our tissues. This paper is a review of the tissue bioaccumulation of a lot of harmful substances take in from the environment, disturbing the homeostasis and the health state of the human body. Bioaccumulation induce structural and functional disturbances at different levels: population, organism, tissue/organ, cellular and molecular. It has been found that some food additives, endocrine disruptors and heavy metals accumulate in the human tissues, inducing structural and functional changes. The epithelial tissue is usually a transient structure or a barrier for the xenobiotics. Liver, splin, kidney, skin and ovaries/testes, as organs, and the fat, bone, nervous and muscle tissues, are target structures for xenobiotics that could be accumulated, being persistent in the animal body and even in the ecosystems

Key words: Xenobiotics, Bioaccumulation, Bioconcentration, Tissues, Bio-education.

Introduction

Xenobiotics are defined as extrinsic chemicals to which an organism is exposed (Croom, 2012), compounds foreign to a living organism (Maurice *et al.*, 2013) or chemicals which are foreign to the biosphere (Fetzner, 2002). Sugimura *et al.*, 1991, showed that human are continously exposed to naturally occuring xenobiotics (from food, for example cooked meat and fish in microwave ovens, food additives, endocrine disruptors, drinking water, tobacco and burning wood smoke, alcoholic beverages, soda drinks, cofee, thea, drugs, antibiotics, cosmetics, etc.) and more and more numerous kinds of industrial and agricultural compounds (nanoparticles, pesticides etc.) in our daily lives. Some of them are involved in cancer development, so that the exposure to any mutagenic and carcinogenetic xenobiotics should be kept at minimum.

Markert, 2007, showed that the bioaccumulation is the process by which an organism acumulate one or more elements and/or compounds from it environment, in function of the bioavailability of the xenobiotics in combination