

Use of Thyroid Hormones and Micronucleus as Potential Early Biomarkers in Yellowfin Seabream (*Acanthopagrus latus*) Exposed to Bisphenol A

Negintaji, Ahmad¹; Archangi, Bitia^{2*}; Movahedinia, Abdolali³;
Safahieh, Alireza⁴; Eskandari, Gholamreza⁵

1- Department of Marine Biology, Faculty of Marine Science, Khorramshahr University of Marine Science and Technology, Khorramshahr, Iran. Email: ahmad_negintaji@yahoo.com

2- Department of Marine Biology, Faculty of Marine Science, Khorramshahr University of Marine Science and Technology, Khorramshahr, Iran, Email: bitia.archangi@gmail.com

3- Department of Marine Biology, Faculty of Marine Science, Khorramshahr University of Marine Science and Technology, Khorramshahr, Iran, Email: amovahedinia@yahoo.com

4- Department of Marine Biology, Faculty of Marine Science, Khorramshahr University of Marine Science and Technology, Khorramshahr, Iran, Email: safahieh@hotmail.com

5- Department of Marine Biology, South Iranian Aquaculture Research Center, Iran. Email: eskandari1344@hotmail.com

Received Date: May 13, 2012

*Corresponding Author

Accepted Date: December 1, 2013

© 2013 Oceanography. All rights reserved.

Abstract

Bisphenol A (BPA) is an endocrine disruptor (ED) that is abundant in marine environments because of its extensive use in manufacturing polycarbonate plastics and epoxy resins. In the present study, effects of BPA on thyroid hormones and blood cells were investigated to detect endocrine and cytogenetic damages in yellowfin seabream inhabited in selected sites in Musa Creek. The results indicated significant reduction in plasma triiodothyronine and high level of plasma thyroxine in treated fishes in comparison to the control groups and in dose dependent manner. In addition, using Micronucleus test (MN) showed induction of micronucleus in exposed fish samples. Therefore, the results of this project indicated the potential effects of (BPA) causing endocrine disruption and cytogenetic damages. Hence, monitoring thyroid hormones and undertaking MN test could be useful to evaluate the potential damage occurred in the fish samples either in controlled or natural marine environments.

Keywords: *Thyroid hormones, Bisphenol A, Xenobiotic, Intraperitoneal injection, Yellowfin seabream (Acanthopagrus latus).*
