

Effects of Benzo[a]pyrene and *Vibrio alginolyticus* on the Tissue Structure of Immune Organs in *Epinephelus coioides*

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Abstract

In the present study, 140 *Epinephelus coioides* have been divided in to 7 groups including: 1. Control, 2. Group injected with coconut oil, 3. Group treated with *V. alginolyticus*, 4. and 5. Fish injected firstly with 20 and 200 mg/kg Benzo[a]pyrene (BaP) and bacteria after 48h, 6. and 7. Fish treated with 20 and 200 mg/kg BaP. Samples were taken from spleen and head kidney in day 1,2,4,7 and 14 of experiment and fixed in formalin buffer solution. 5 micrometer sections were prepared from tissues and were stained by hematoxylin and eosin. The tissue alterations including increase in melanomacrophage centers, bleeding, immune cell density, increase of broken RBC and bacterial colonies were observed in the spleen and head kidney of all treatments especially in days 4 and 7.

Keywords: *Benzo[a]pyrene*, *Vibrio alginolyticus*, Spleen, Head kidney, *Epinephelus coioides*.
