The Turkish Journal of Occupational / Environmental Medicine and Safety

Vol:2, No:1 (1), 2017 Web: http://www.turjoem.com ISSN : 2149-4711

P50. DETERMINATION OF THE EFFECTS OF BISPHENOL A (BPA) ON TOTAL HEMOCYTE COUNTS IN FRESHWATER MUSSELS (*Unio mancus*)

Feriha YILDIRIM, Leila MEHRNIA, Pınar ASLAN, Kevser YILMAZ, A.Çağlan KARASU BENLI, Figen ERKOÇ

Gazi Üniversitesi, Teknikokullar, Ankara, 06500
Ankara Üniversitesi, Ankara, 06500

Bisphenol A (BPA), is a synthetical chemical that is widely used in polycarbonate plasticsandchemical adhesive resins. There are many studies about that the development and reproduction system negatively affects in various vertebrate and invertebrate organisms by this chemical which has effects of endocrine disruptors identified. However, in the determination of the amount of damage that is still uncertainty and continues research. In this study, total number of hemocytes were examined to determine the potential damage of BPA on the reproduction and body systems of Unio mancus eucirrus Bourguignat, 1860 (Bivalvia) which is a species of freshwater mussels.

The mussels, that have been collected from Sinop-Karasu stream (average lenght 55,2±3,46 mm and average weight 21,97±4,30 g), are carried out in 15 liter tanks by putting 15 mussels in each, after 15 days adaptation in dechlorinated tap water supplied in the laboratory. They were exposed to four different sublethal BPA doses (0.1 mg/L¸ 1 mg/L¸ 5 mg/L ve 10 mg/L) and at the end of 144 hours hemolymph samples are taken and total hemocytes are counted with a light microscope through the hemocytometer. Statistical analysis performed by Kruskal-Wallis test was used.

It has been observed a significantincrease on the total number of hemocytes of U. mancus which are exposed to BPA in comparison to the control group ($p < 0.05$). Accordingly, the determination of the total hemocyte counts infreshwater musselswas found to be a good biomarkerto examine the effects of BPA that is endocrine disruptor, in freshwater ecosystems.

* ferihayildirim@gmail.com