

عنوان مقاله:

Research Article: Histological effects of water-soluble fraction of diesel (WSFD) on liver, gill, and kidney of common carp (Cyprinus carpio)

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خلاصه مقاله:

This research aimed to study the histological effects of the acute water-soluble fraction of diesel (WSFD) on the liver, gill, and kidney of common carp (*Cyprinus carpio*). The fish were divided into four experimental groups; control (group1) (G1) without WSFD, and three groups of WSFD with densities of 4% (G2), 8% (G3), and 16% (G4). After 48 hours of exposure, sampling of liver, gill, and kidney was performed from all experimental groups, simultaneously. The results showed that the main alterations observed in the gill included goblet cell increasing, epithelial lifting, complete and incomplete fusion, filamentous edema, blood congestion, aneurysm, and infiltration of inflammatory cells causing the rank of gill tissue lesions in the G4 (3.30) and G3 (2.70) significantly differed from the G1(0.00) ($p < 0.005$). Sever sinusoid dilation, sever blood congestion, hypertrophy a of nucleus, nucleus in lateral position, cytoplasmic vacuolization and pyknotic nucleus were observed in the liver. The rank of liver tissue lesions in the G4 (3.30) and G3 (2.70) significantly differed from the G1(0.00, $p < 0.005$). Tubular disorganization, shrinkage and necrosis of tubule, and melanomacrophage aggregation were observed in the kidney. The rank of kidney tissue lesions in the G4 (3.30) significantly differed compared to the G1 and G2 (0.00) ($p < 0.005$). Total lesion rank of whole aforementioned tissues in G4 (9.70) significantly differed from the G1 (0.00) and G2 (3.70) ($p < 0.05$). The results showed that WSFD causes pathological lesions incidence in the fish liver, gill, and kidney and increase in WSFD level causes more severe tissue damages.

کلمات کلیدی:

.Water-soluble fraction of diesel (WSFD), Histopathology, Gill, Liver, Kidney, Common Carp

