

Table 2. Effect of continuous darkness on liver weight of 10 week old male rats

Time of keeping rats in continuous darkness	Liver weight at autopsy (mg)
Control (Group I ⁺)	15080±121.3
2 week continuous darkness	15119±169.3
Control (Group I ⁺⁺)	15271±101.2
4 week continuous darkness	15312±115.2*
Control (Group I ⁺⁺⁺)	15382±123.4
6 week continuous darkness	14981±118.1*
Control (Group I ⁺⁺⁺⁺)	15506±122.5
8 week continuous darkness	13294±116.1*

Results were expressed in mean ±SD of 5 rats.

* = P<0.001)

Table 3. Effect of continuous darkness on liver weight to body weight ratio in 10 week old male rats

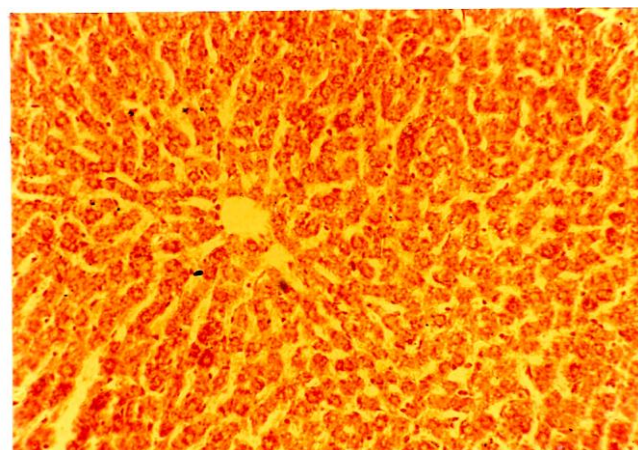
Time of keeping rats in continuous darkness	Liver weight/100g BW
Control (Group I ⁺)	3.443±0.18
2 week continuous darkness	3.406±0.20
Control (Group I ⁺⁺)	3.360±0.18
4 week continuous darkness	3.320±0.19
Control (Group I ⁺⁺⁺)	3.126±0.17
6 week continuous darkness	3.063±0.16*
Control (Group I ⁺⁺⁺⁺)	3.033±0.21
8 week continuous darkness	2.641±0.19**

Results were expressed in mean ± SD of 5 rats.

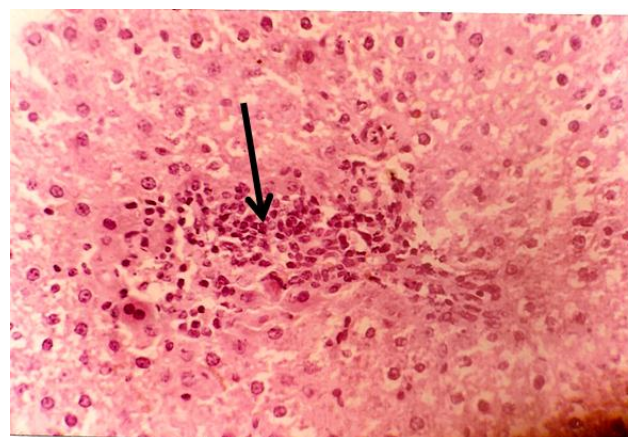
* = P<0.01, ** = P<0.001

Histological observations:

The liver of the control groups showed normal histological structure; consists of epithelial, liver cells (hepatocytes); arranged into interconnected plates forming hepatic cords separated by vascular sinusoids, the hepatocytes extend radially from the central vein toward the periphery forming the hepatic cords (Figure 1).

**Figure 1. Liver tissues of 10 week old male control rat (H&E stain X125)**

In **group II**: no any clear abnormalities were noticed in the liver architecture, apart from a little infiltration of mononuclear inflammatory cells seen on the portal tract. Nuclear vacuolation was noticed and some cytoplasmic fat vacuoles (Figure 2).

**Figure 2. Liver tissues in male rat exposed to 2 week continuous darkness. Little infiltration of mononuclear inflammatory cells (arrow) seen on the portal tract. Nuclear vacuolation was noticed and some cytoplasmic fat vacuoles. (H&E×125)**

In **group III**: The liver tissue showed swelling of a few hepatocytes, blurring of the septal-parenchymal junction with heavy infiltration of connective tissues with lymphocytes, macrophages, granulocytes. Apoptotic