

Original Research Article

Potential Effect of Electronic Indoor Insect Killer on Histological Structure of Kidney of Male Mouse *Mus Musculus*

Sanna Abadi Habaeb

Faculty of Science , University of Kufa , Al-Najaf , Kufa ,IRAQ

E-mail: senaab.14@gmail.com

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Abstract

During this study evaluated the efficiency of insect killer device electric one exposure periods of 1, 12, 24, 36 an hour and a study of its impact on those conditions and periods of exposure of the device in the histological structure of the kidney of male laboratory mouse *Mus musculus* were divided into control group G1 and the group exposed to 1 hour G2 and 12 hours G3 and 24 hours G4 and 36-hour G5. The results showed that. Histological results showed that the group G2 and G3 kidney tissue appeared normal approach to animal control tissue either group G4 tissue animals showed a few pathological changes distress and Group G5 which got most of the pathological changes in the tissues studied.

Key words: Insect killer, histological structure, kidney, *Mus musculus*.

الخلاصة

ان البحث عن متغيرات جديدة نافعة في تشخيص ومتابعة اضرار المبيدات من المجالات المهمة في حقل البحث حيث تم من خلال هذه الدراسة تقييم كفاءة جهاز قاتل الحشرات بالصعقة الكهربائية, وذلك من خلال تعريض ذكور الجرذان لفترات 1, 12, 24, 36 ساعة للجهاز ودراسة تأثيره في التركيب النسيجي لكل ذكور الفئران المختبرية *Mus musculus* حيث قسمت الى مجموعة السيطرة G1 والمجموعة المعرضة الى 1 ساعة G2 و 12 ساعة G3 و 24 ساعة G4 و 36 ساعة G5. بينت النتائج النسيجية ان المجموعة G2 و G3 ظهر فيها نسيج الكلى بمعالم طبيعية مقارنة لانسجة حيوانات السيطرة اما المجموعة G4 اظهرت انسجة حيواناتها تغيرات مرضية قليلة الشدة والمجموعة G5 حصل فيها تغيرات مرضية في معظم الانسجة المدروسة.

Introduction

We have the latest human change in the ecological balance in many of exploiting areas and invest the territory and in order to assess a new balance and resist the animals and harmful plants focused to the use of certain chemical products which are increasing the quantity and seriousness of the day [1] and the right big health damage to non-target organisms such as pet birds and the bees and humans [2]. There are multiple types of pesticides vary according to the nature of their work, or take

advantage of every type including a group or groups of chemical compounds similar or per differ them from the other and that was the origin of all of the synthetic either organically or metal or joint may share some plant sources in preparation [3,4]. Spread in recent phenomenon of the use of electrically stunned plane insect devices which are of different types and sizes where attract insects by neon publisher UV at a wavelength of 365 Nanometer. The clamp was dumbfounded by insects and throw it designated for that purpose by the stairs [5]. We note that among the

warnings and precautions set by the manufacturers of this type of device that is placed inside the places and rooms which closed the windows to prevent the attraction of insects abroad to the light emitted from the device, also indicated that the equipment generates UV and generates ozone gas [6] ozone gas Blue is the color is composed of three atoms of oxygen chemical formula O₃ and per slim atmosphere may not exceed, in some areas, one in a million and is one of the toxic gases [7]. On the contrary, the upper layers of the atmosphere, the presence of ozone in the atmosphere Lower cause major damage, Inhalation a fraction of the ozone with the air causes the headache and affects the lungs and weaken their resistance to the bacteria may cause Crash cells [8] The study aims was to investigate the efficiency of this device in the fight against insect mosquitoes and the study of its effect on the tissue and cellular composition of the kidneys of laboratory mice.

Materials and Methods

Insect Killer One As Electrical Device:

Got the device from the local markets, carries the brand name kill pest (model: MD-20WA) factory by Kim Thuan Phat / China Company dimensions (40 × 25) cm contains Two contains neon bulb length of one 30 cm card consumption of 35 watts hedged its made internal network iron is connected to an electric current insects device ,external network is made of aluminum.

Laboratory Animals:

Used in this study, male adult mice type of *Mus musculus* L. strain BALB / C weight (25-30) g, which have been bred in the animal house under controlled conditions of temperature (20-25)°C and fed diet B integrated animal.

Experiment Tests:

Electric shock device commented on the rise 3 meters above ground level in a closed room doors and windows and for each test period with operating control device for a period of 1 hour then

Repeated the same experiment in terms of increasing the duration of exposure to electric shock device and by 12.24, 36 hours.

To study the possible side effect of the device electric shock to humans has been the use of laboratory mice as model his replacement, where it was put animals at all stages of the experiment under Living situation similar in terms of lighting, temperature, and provided the stuff and water are free divided rats into five groups each group of five mice, the first group G1 considered a control, the second group G2 and placed in front of electric shock device for 1 hour and the third group G3 for 12 hours and the group G4 for 24 hours and the group G5 for 36 hours, then explained the animals of each group after the end of the time of exposure of the device, was kidney eradication and preserved in formalin concentration of 10%, then the samples sent to the laboratory histological preparations after the samples were examined with a microscope and photographed. Use the test less teams moral level of 0.05 to see significant differences between the results.

Results and Discussion

Reflecting the current study showed the histological pathological changes in the study, which included members of the kidneys. May cause exposure to your insect killer one as long-term ranging from one hour to 36 hours to the emergence of pathological changes in most tissues studied varied severity of the fabric to another and from one area to another in the same fabric. The results showed that exposure to one-hour group G2 and G3 Group of 12 hours led to the emergence of a natural textile milestones approach to the tissues of animal control. The group, which suffered a 24-hour G4 tissues of animals have shown low-intensity pathological changes compared with the group that was exposed to a device for 36 hours G5 which demonstrates the arrival of the effect of exposure of the device to

the toxicity class which has produced all damaged monuments histological kidney. The photo shows one syllable histologically Kidneys a rat control, texture kidney crust contains capsules Bowman Bowman's capsules in each capsules network of capillary blood vessels, which represents the glomerulus Glomerulus, as well as having many of the renal tubule distal and proximal padded cell epithelial cubic container on the cytoplasm homogeneous shown results that he did not notice any change textile evident in histological sections of kidney mice groups G2 exposed for one hour and G3 exposed for 12 hours, as she was interweave the nearest arranged and shape of the control group as in the image 2 image 3. Results showed tissue sections of rat kidneys group G4 that congestion bloody less intensity not seen bleeding and bloody material amyloid deposition was lighter and the disappearance of his presence in the glomeruli urinary Image 4. While tissue sections were taken from the kidney of mice Group G 5 offered for your electric shock for 36 hours has shown histological changes were concentrated in the cortex area represented congestion of blood vessels and bleeding between the renal tubule, with the deposition of material but Amyloid in the wall of the renal tubules leading to Congestion not limited to tubule but included other glomeruli image 5. changes that have emerged in the study is the case of the deposition material amyloid deposition in the textile passages from both groups of animals G4 and G5, it was concentrated in the glomeruli and renal tubule, and the thought that this is due to constant alert for

lymphatic tissue, and amyloid name given to the amorphous glass-like material deposited outside the cells and tissues in the permeate the pathogenesis of certain situations and deposition coincides with autoimmune disorders. And that the material accumulation in the tissues leads to a gradual loss of cells and therefore tissue damage and called amyloid Amylodosis [9] The effect was more pronounced in the cortex area. As seen biodegradable lining tubule proximal characterized swollen epithelial cells lining the tubules, and the presence of empty places clear free the nucleus of cells and the loss of its components, especially membrane cells.

According to [10], exposure periods UV that come with the sun or artificial light therapy lamps are the two things very worry for human health, the effect radiation on the skin, including dermatitis and weaken the immune system. According to [11] that the ultraviolet radiation term UVA and medium UVB and short UVC can destroy the protein collagen and thus accelerates aging skin. The interactions electric discharge converts some oxygen into ozone O_3 , which strongly dissociates of something organic compounds or for some metals or their oxides [12], [13] revealed that the ozone Once the organism enters the body decomposes into oxygen, O_2 and free electron unstable attacks the membranes of living cells reasoned case of lipid peroxidation performer to rupture of membranes and flow the hemoglobin through them and this proved the picture of 5 for the case of hemorrhage and necrosis of the cells [14].

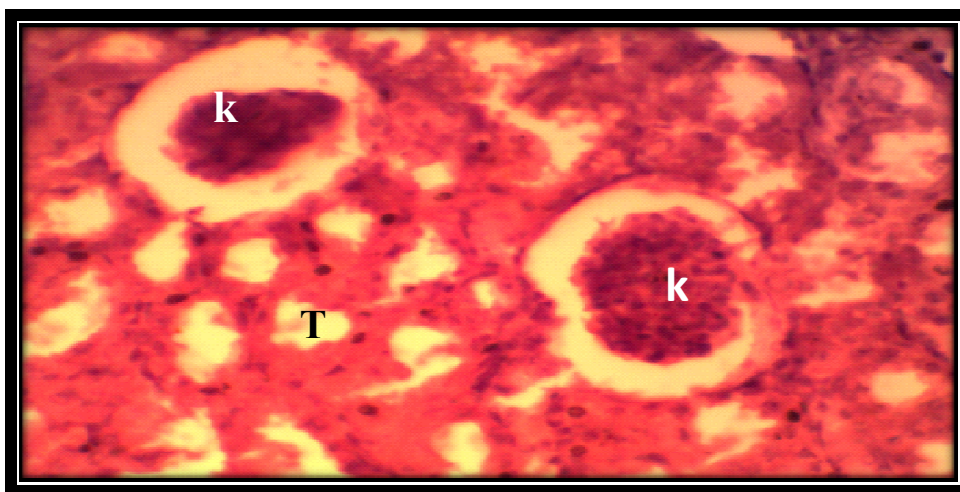


Figure 1: A section in the kidney of mouse in the control group, represented by the existence of a natural textile landmarks show Glomerulus within Bowman's capsule(k) surrounded by many of the renal tubule(T)(Aiosin- Himatoxlin $\times 200$).

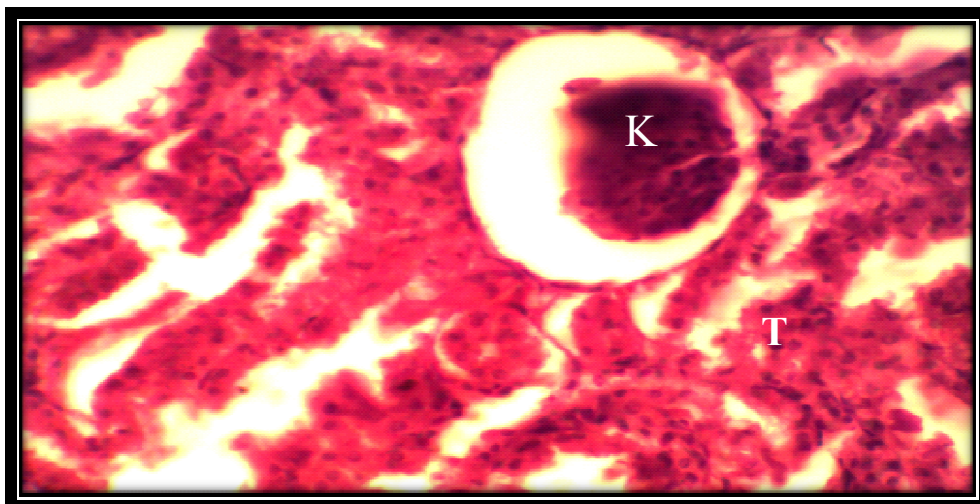


Figure 2: A section in the kidney of mouse in the G2 landmarks textile natural approach to the control group, represented by Glomerulus within Bowman's capsule(k) surrounded by many of the renal tubule(T). (Aiosin- Himatoxlin $\times 400$)

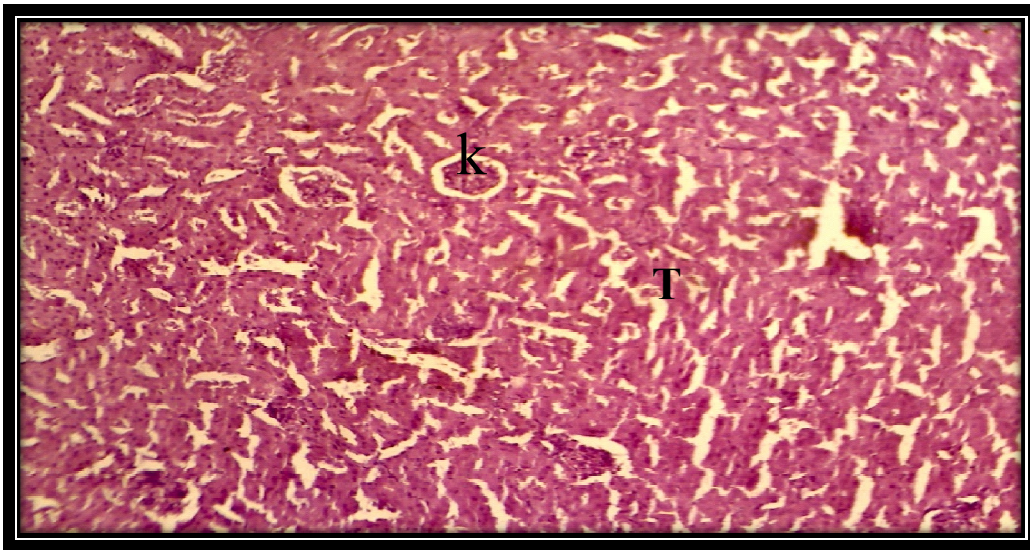


Figure 3: A section in the kidney of mouse in the G3 landmarks textile natural approach to the control group, represented by Glomerulus within Bowman's capsule(k) surrounded by many of the renal tubule(T). (Aiosane- Himatoxlin $\times 200$)

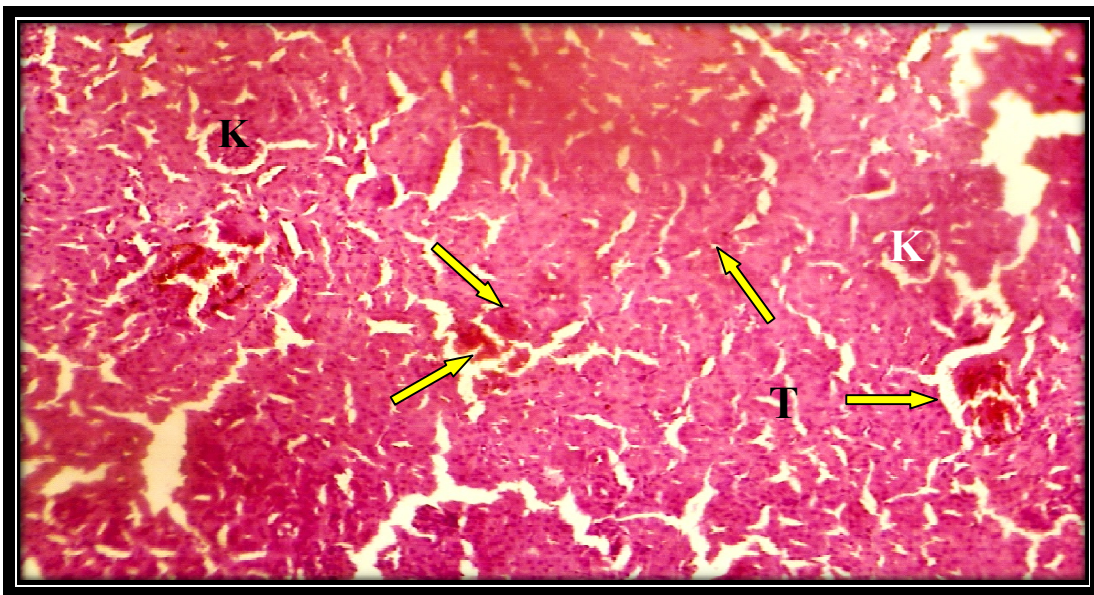


Figure 4: The section at the kidney of mouse in G4 showed textile changes were concentrated in the cortex area represented congestionBlood vessels and bleeding () between the renal tubule. (Allosan- Himatoxlin $\times 200$)

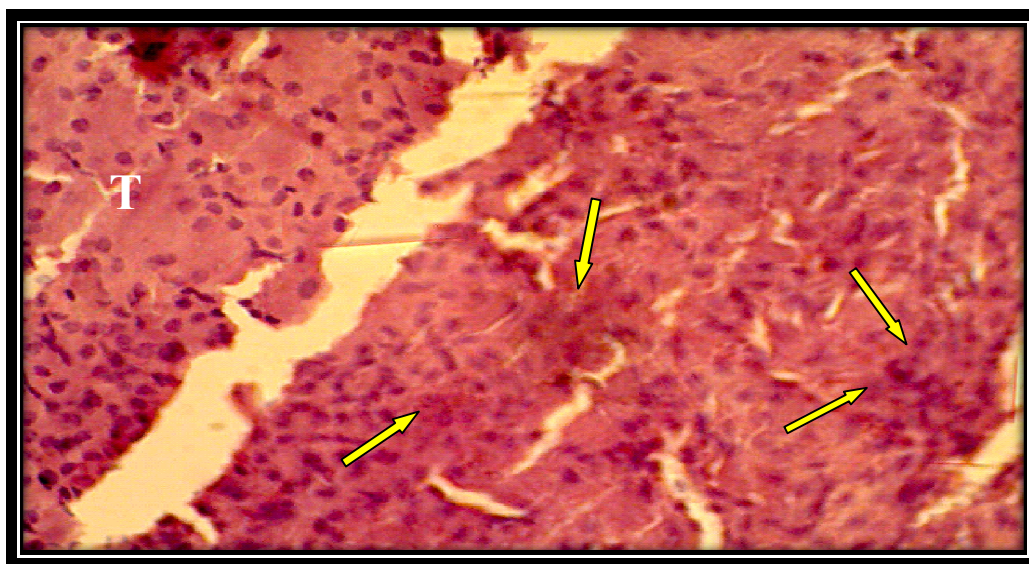


Figure 5: A section in the kidney of mouse G5 changes textile represented a little gathering of amyloid within the tubule (T)Punctuated renal hemorrhage. () (Allosan-Himatoxlin $\times 400$)

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