Effect of Injection for Alcoholic Extract of Methiciline and Annona in Kidney

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Abstract
The author was divided into groups, each group included 20 rats. The first group is the control group and the second group is the group that was treated with the extract of the A.squamosa plant at a concentration (150 mg), the third group is the group that was treated with the extract from the seeds of the A.squamosa plant at a concentration (100 mg/kg) per day for 40 and 60 days and after the end of the experiment The first (20) days, half of the rats were sacrificed and the tissue sections of the kidney were made, and after the end of the second experiment (50) days, the other half was sacrificed and the tissue sections of the kidney were made. The results of the histological study of the kidney of the white rats treated with the extract of the seeds of the A.squamosa (140-220 mg/kg) for the periods 36 and 50 days showed the normal structure of Bowman's capsule and glomerulus and the absence of histopathological changes.

Keywords: structure, Bowdrana Mish, loss weight.

Introduction

The A.squamosa plant is a multi-purpose plant with edible fruits that is a source of medicinal and industrial products and has bioactive properties in all its parts. Several phytochemical, pharmacological and antibacterial studies have been conducted in the seeds (Gupta et al., 2005 ; Thafar et al.,2016). The plant is used to treat epilepsy, dysentery, heart problems, damage, worm infestation, constipation, bleeding, dysuria, fever, thirst, malignancy and ulcers (Shirwaikar et al., 2004 ; Muna et al.,2020) . A. Squamosal contains alkaloids, and is considered a medicinal plant with antioxidant activity (Kumar et al., 2004; Shirwaikar et al., 2004). The kidney is important organ and gland in the human body and accounts for about 1/50th of the body weight of the average adult. The kidney occupies the upper right quadrant of the abdomen to the right of the stomach and just below the diaphragm and is divided by the sickle ligament into a larger right lobe and a smaller left lobe. The kidney is connected to the digestive system, and the stomach is connected to the left hepatic lobe by the gastrohepatic ligament which contains neurovascular structures including the hepatic division of the vagus nerve. The transverse colon is sometimes near or in direct contact with the right lobe, in addition, the duodenum and portal structures are connected to the hepatoduodenal ligament and the portal kidney , making the kidney a major highway for transporting oxygenated and deoxygenated blood from these organs to the heart (Abdel-Misih and Bloomston, 2010). The plant Annona squamosa (family: Annonaceae) is a medicinal plant known as sugar apple, sugar candy, or sugar pineapple. The Annonaceae family includes approximately 135 genera and 2,300 species. The most important genera with the largest number of species is Annona, with 166 species. The genus name, "Annona" means "annual production"

Material and Methods

Plants in the Annonaceae family are distinguished by their ability to biosynthesize certain secondary metabolites, including alkaloids, essential oils and phenols common in various plant masses, as well as 'congenital acetogenins' (ACGs), which are exclusive to this family. ACGs were first detected by (Gonzalez-montelongo et al., 2010) with the identification of the

Uvaricin polyketide, which was isolated from the roots of Uvaria acuminata and was the first group of ACGs described. The cages are spread with sawdust and changed constantly. The animals are fed according to a natural diet of pellets, with the creation of appropriate laboratory conditions, as the temperature ranges between 20-25 degrees Celsius, with an average of 12 hours of light and 12 hours of darkness. Before the start of the experiment, the animals were left for the purpose of adaptation for 14 days, during this period they were provided with water and a manufactured ration according to the composition shown in Table (3-3) (Ward, 1970). The procedures for using live animals in research were first reviewed, approved and accepted in accordance with the Central Ethics Committee Biology of the Institutional Animal Care. The study was conducted during the period from Septem. 2020 to January 2021.

Results

The results of the microscopic examination of the kidney of the animals in the control group showed the normal structure of the kidney and the absence of histological changes in the hepatocytes as in (Fig. 1). the kidney s of animals that were injected with the extract of A. squamosa seeds at a concentration of (120 mg/kg) for 30 days showed the normal appearance of hepatocytes as well as the regularity of the hepatic cords and the absence of histological changes as (Fig. 2). the kidney of animals that were injected with the extract of A. squamosa seeds at a concentration of (120mg/kg) for 45 days showed the regularity of the hepatic cords and the hepatocytes appear in their normal shape and some binuclear cells appear the kidney s of animals that were injected with the extract of A. squamosa seeds at a concentration of (200 mg/kg) for 30 days showed the normal structure of the kidney and cells and the absence of histological changes .the kidney s of animals that were injected with the extract of A. squamosa seeds at a concentration of (200 mg/kg) for 45 days showed the normal shape of the hepatocytes and central vein and the absence of pathological changes.

The results of the microscopic examination of the histological sections of the organs of the white rat and the treatment with the extract of the seeds of the A.squamosa plant (120-200 mg/kg) and over the periods of 30 and 45 days showed the normal histological structure of the kidney and the absence of any histopathological changes and that the kernel extract of the seeds of the A.squamosa had a protective role This result is in agreement with (Sheikuduman & Karunakaran, 2008) where he mentioned in his study the hepatoprotective effects of EEAS and AEAS extracts of the leaves of the plant. It also agreed with what was stated by (Mandal et al., 2009; Shamkuwar et al., 2012), which showed that there is no harmful effect of the alcoholic extract of Saad plant on kidney functions in mice, and this indicates that the plant protects against the generation of free radicals, and this is attributed For the defensive effect of the active compounds found in the plant and of these compounds (flavonoids) as the main active content .

A.squamosa extracts improve kidney function by decreasing the level of toxicity of alkaline phosphate, ALT and AST to the kidney in rats. Although there will be an increase in AST and ALT in heart and kidney disease, the AST increase is more in heart disease and ALT in kidney disease. Total bilirubin is a byproduct of the breakdown of red blood cells in the kidney , and bilirubin is a good indicator of kidney function. Elevated levels will cause jaundice and are indicative of kidney and bile duct damage (Rajesh et al., 2005). Annona squamosa extracts reduced ALP as well as total bilirubin levels, indicating its protective effect on the kidney and improving its functional efficiency ..The result of the current study is in agreement with the study (Raish et al., 2016) in which rats were treated with alcoholic extract of A.squamosa seeds at a concentration of (150-300mg/kg) and there were no side effects of the extract on kidney tissues, given the non-stimulating substances it contains. On the occurrence of oxidative stress

or the generation of free radicals as it does not have any toxic effect on tissues. The results of the current study agree with (Jiang et al., 2004, Ravinder et al., 2006), where the previous study also showed the same result in the groups treated with isoniazid.

Conclusions

Thus A.squamosa extracts appear to be useful in controlling kidney injury in case of drug-induced hepatotoxicity. Purification of the extracts, specifically the active ingredient, may result in a good kidney -protective drug

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