

# LIGHT MICROSCOPIC STUDY OF THE EFFECT OF PLATELET RICH PLASMA ON HEPATIC FIBROSIS IN ADULT MALE ALBINO RATS

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## INTRODUCTION

Liver fibrosis is one of the most common causes of mortality worldwide. Platelet rich plasma (PRP) is one of the newly emerging modalities that contributes to tissue-healing process.

## AIM OF THE WORK

To study the potential effect of platelet rich plasma on hepatic fibrosis induced by thioacetamide (TAA).

## MATERIAL AND METHODS

### Material:

18 adult male albino rats were randomly divided into 3 groups:

**Group I: (control):** received intraperitoneal (i.p) saline twice weekly for 7 weeks.

**Group II: (fibrosis):** received i.p injection of TAA (200 mg/kg) twice weekly for 7 weeks.

**Group III: (treated):** received i.p injection of TAA (200 mg/kg) twice weekly for 7 weeks and PRP starting from 4<sup>th</sup> week of TAA administration to the end of the experiment.

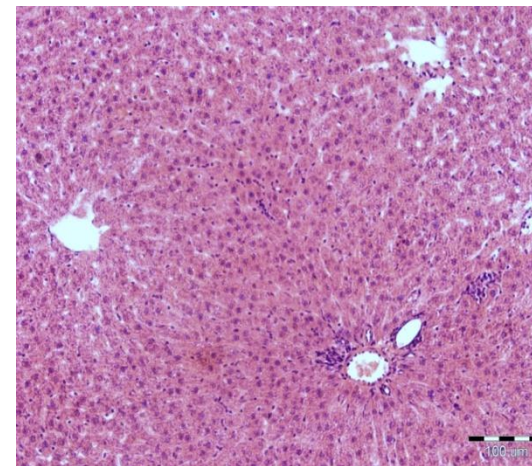
### Methods:

-Liver fibrosis was induced by intraperitoneal injection of TAA dissolved in 0.9% normal saline in a dose of 200 mg/kg body weight twice a week for 7 weeks. Fifteen rats were used for the purpose of PRP preparation using double centrifugation technique.

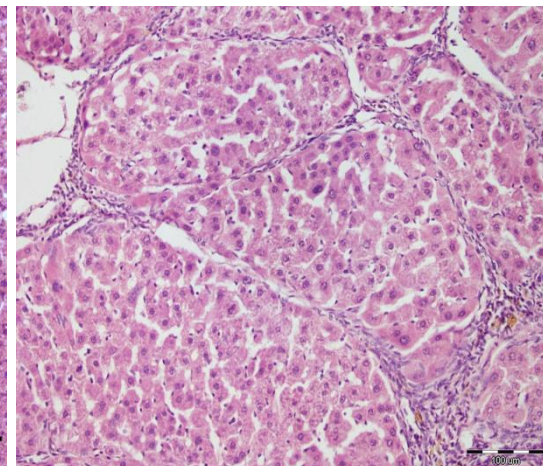
-At the end of the experiment, all groups were sacrificed and liver was taken for light microscopic examination by H&E and trichrome stains.

## RESULTS

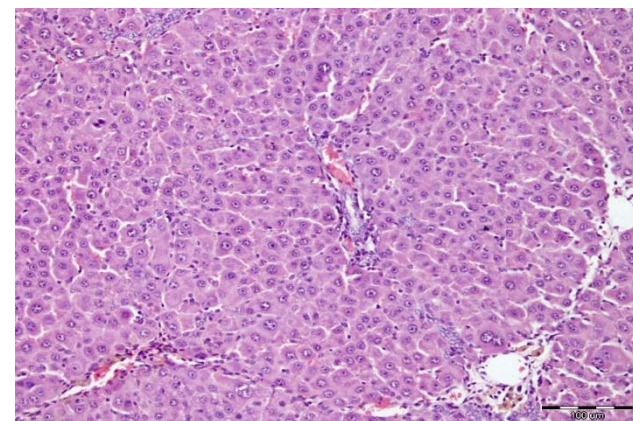
H&E stained sections of **group II** (fibrosis) showed disorganization of hepatic architecture with the formation of fibrous septa and severe affection of hepatocytes. **Group III** (treated) sections showed a marked improvement with decrease in fibrous tissue deposition and mild affection of the hepatocytes.



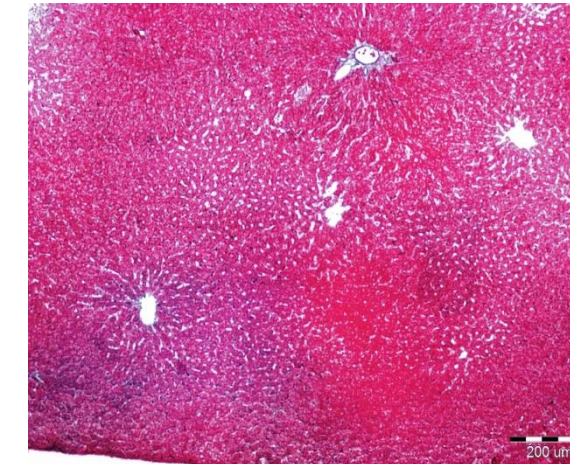
**Figure 1:** A photomicrograph of rat liver of group I (control). (H&E stain, Mic. Mag. ×200).



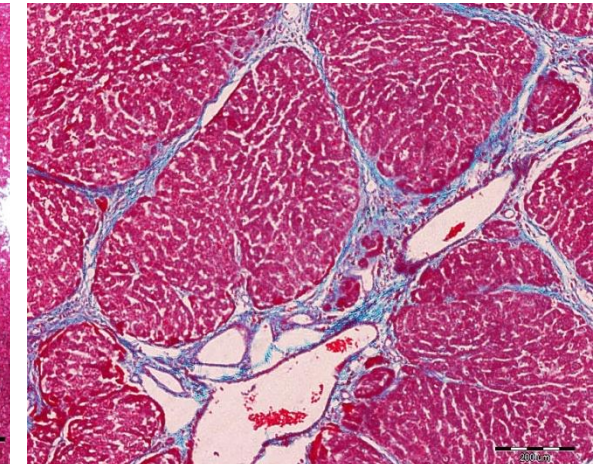
**Figure 2:** A photomicrograph of rat liver of group II (fibrosis). (H&E stain, Mic. Mag. ×200).



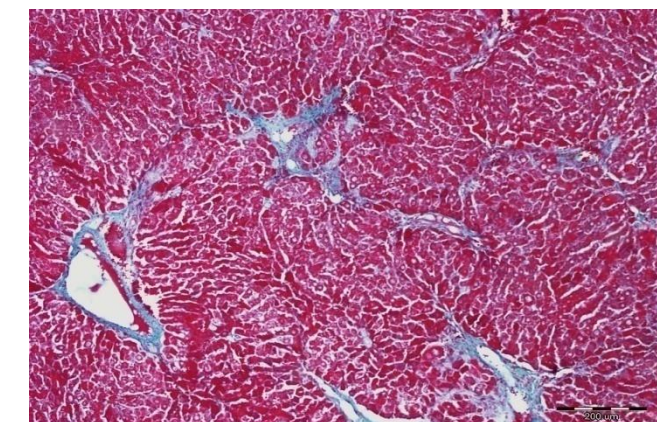
**Figure 3:** A photomicrograph of rat liver of group III (treated). (H&E stain, Mic. Mag. ×200).



**Figure 4:** A photomicrograph of rat liver of group I (control). (Masson trichrome stain, Mic. Mag. ×100).



**Figure 5:** A photomicrograph of rat liver of group II (fibrosis). (Masson trichrome stain, Mic. Mag. ×100).



**Figure 6:** A photomicrograph of rat liver of group III (treated). (Masson trichrome stain, Mic. Mag. ×100).

## CONCLUSION

It was concluded that PRP could be an effective modality to minimize the development of fibrotic changes.