

**Brewers' rice: a by-product from rice processing provides natural hepatorenal protection in azoxymethane-induced oxidative stress in rats**

ABSTRACT

Brewers' rice, which is known locally as *temukut*, is a mixture of broken rice, rice bran, and rice germ. Our present study was designed to identify the effect of brewers' rice on the attenuation of liver and kidney damage induced by azoxymethane (AOM). Alanine transaminase (ALT), alkaline phosphatase (ALP), aspartate transaminase (AST), creatinine, and urea were evaluated to understand potential hepatoprotective effects and the ability of brewers' rice to attenuate kidney pathology induced by AOM treatment. Liver and kidney tissues were evaluated by hematoxylin and eosin (H&E) staining. Overall analyses revealed that brewers' rice improved the levels of serum markers in a manner associated with better histopathological outcomes, which indicated that brewers' rice could enhance recovery from hepatocyte and kidney damage. Taken together, these results suggest that brewers' rice could be used in future applications to combat liver and kidney disease.

**Keyword:** Brewers' rice; Rice processing; Hepatorenal protection; Rats