

Effect of Molnupiravir on Ischemia/Reperfusion Damage in Rat Liver, an Experimental Study

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SUMMARY. The purpose of this study is to see how molnupiravir affects I/R-induced damage of liver in rats. Three rat groups were used in the study: SG (n = 6), LIR (n = 6), and MIR (n = 6). Molnupiravir 40 mg/kg was given to MIR rats. A laparotomy was performed, as well as hepatic ischemia (1 hour) and reperfusion (6 hours). IL-1 β , tGSH, NF- κ B, MDA, TNF- α , and histopathology were all examined in liver tissue. ALT and AST levels were measured in blood samples. The LIR and MIR groups had higher NF- κ B, MDA, TNF- α , IL-1 β , ALT, and AST levels than the SG group. The greatest tGSH levels were seen in SG. The MIR group received the most damage, according to histopathological examinations. Molnupiravir, which is used to treat COVID-19 without causing liver damage, aggravates ischemia/reperfusion injury in stressed liver tissue. Molnupiravir should be used with caution in procedures such as liver transplantation or resection to avoid liver injury.

RESUMEN. El propósito de este estudio es ver cómo molnupiravir afecta el daño hepático inducido por I/R en ratas. En el estudio se utilizaron tres grupos de ratas: SG (n = 6), LIR (n = 6) y MIR (n = 6). Se administró 40 mg/kg de molnupiravir a ratas MIR. Se realizó una laparotomía, así como isquemia hepática (1 hora) y perfusión (6 horas). Se examinaron todos IL-1 β , tGSH, NF- κ B, MDA, TNF- α e histopatología en tejido hepático. Los niveles de ALT y AST se midieron en muestras de sangre. Los grupos LIR y MIR tenían niveles más altos de NF- κ B, MDA, TNF- α , IL-1 β , ALT y AST que el grupo SG. Los mayores niveles de tGSH se observaron en SG. El grupo MIR recibió el mayor daño, según los exámenes histopatológicos. El molnupiravir, que se usa para tratar la COVID-19 sin causar daño hepático, agrava la lesión por isquemia/reperfusión en el tejido hepático estresado. Molnupiravir debe usarse con precaución en procedimientos como el trasplante o la resección de hígado para evitar lesiones hepáticas.

KEY WORDS: ischemia/reperfusion, liver tissue, molnupiravir, oxidative stress.

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