



Effects of Parecoxib on Ovary Ischemia Reperfusion Injury Which Causes Infertility in Rats

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SUMMARY. Ischemia/reperfusion (I/R) injury has a role on the oxidative stress and causes infertility. Aim of the study was investigate the effect of parecoxib on the ovary I/R injury and infertility. Rats were divided into four groups which were applied dual-side ovary ischemia reperfusion (I/R), 10 mg/kg parecoxib + ovary I/R (PIR-10), 20 mg/kg parecoxib + ovary I/R (PIR-20) and sham-operated (SHAM) group. Malondialdehyde (MDA), total glutathione (tGSH), tumor necrosis factor- α (TNF- α) and interleukin-1 β (IL-1 β) were measured in the ovaries. Also, the tissues were examined histopathologically. Levels of MDA, IL-1 β and TNF- α increased in ovarian tissues of I/R group compared to the SHAM group while tGSH level decreased. However, in PIR-10 group, tGSH level increased while MDA, IL-1 β and TNF- α levels decreased compared to the I/R group. Also, several histopathological changes were seen in the I/R group. Parecoxib inhibited I/R injury and reduced the I/R related infertility. Parecoxib may prevent the ovarian I/R injury and related infertility.

RESUMEN. La lesión por isquemia/reperfusión (I/R) tiene un papel en el estrés oxidativo y causa infertilidad. El objetivo del estudio fue investigar el efecto de parecoxib en el ovario lesionado por I/R e infertilidad. Las ratas se dividieron en cuatro grupos a los que se aplicó isquemia-reperfusión de ovario de doble cara (I/R), 10 mg/kg de parecoxib + I/R de ovario (PIR-10), 20 mg/kg de parecoxib + I/R de ovario (PIR-20) y el grupo operado falso (SHAM). El malondialdehído (MDA), el glutatión total (tGSH), el factor de necrosis tumoral alfa (TNF- α) y la interleucina-1 β (IL-1 β) se midieron en los ovarios. Además, los tejidos se examinaron histopatológicamente. Los niveles de MDA, IL-1 β y TNF- α aumentaron en los tejidos ováricos del grupo I/R en comparación con el grupo SHAM, mientras que el nivel de tGSH disminuyó. Sin embargo, en el grupo PIR-10, el nivel de tGSH aumentó mientras que los niveles de MDA, IL-1 β y TNF- α disminuyeron en comparación con el grupo I/R. Además, se observaron varios cambios histopatológicos en el grupo I/R. Parecoxib inhibió la lesión I/R y redujo la infertilidad relacionada con I/R. Parecoxib puede prevenir la lesión de I/R ovárico y la infertilidad relacionada.

KEY WORDS: infertility, ischemia/reperfusion injury, parecoxib, rat.

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