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**HYPOTHERMIC PROTECTION ATTENUATES RENAL FIBROSIS IN RENAL ISCHEMIA-REPERFUSION INJURY IN MICE.**

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**Objectives:** Hypothermia attenuates the renal injury induced by ischemia-reperfusion(IR). However, the detailed molecular pathway remains unknown. Although there has been reported that hypothermia protects acute renal damage, there is little known that hypothermia reduce renal fibrosis in IR kidney injury. We evaluated hypothermic protection against renal fibrosis in renal IR injury.

**Methods:** C57Bl/6 mice were divided into the following groups: sham-operated (cold, 32C) vs normal temperature (37C); IR mice (32C vs 37C). Kidneys were harvested 20 minutes after induction of renal ischemia and 24, 72, 168 hours after iIR injury. Functional and molecular markers of kidney injury were evaluated.

**Results:** The blood urea nitrogen and serum creatinine levels and the histologic renal injury scores were significantly lower in 32C IR than 37C IR kidneys (all P values < .05).In kidney harvested 20 min, the extent of renal PGC1 alpha and NFkB was significantly increased in the kidneys of 32C compared to 37C IR mice. In kidney harvested 24hr, 72hr, and 168hr, the expression levels of TGF beta and alpha SMA decreased, however, NFkB and PGC1 alpha was increased in 32C IR compared to 37C IR mice. In addition, in kidney harvested 72hr, and 168hr, the stained area of TGF beta, alpha SMA, and masson trichrome, were significantly decreased in 32C IR compared to 37C IR mice.

**Conclusions:** Hypothermia attenuates the renal fibrosis induced by Ischemia reperfusion.