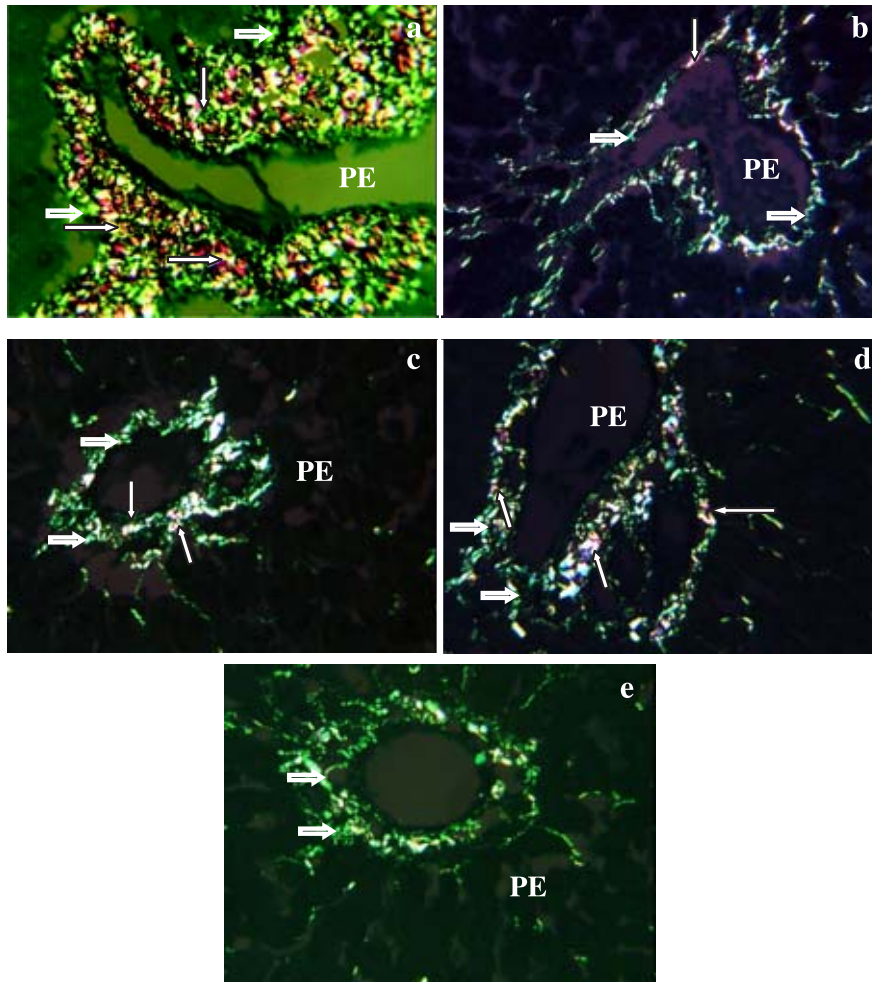




# Images in hepatology

## Effect of cold storage/reperfusion on rat hepatic collagen network organization

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Rat livers were cold stored (0°C-48 Hs) in University of Wisconsin (UW) solution. To reduce cold preservation/reperfusion injuries, three concentrations (50, 100 and 250  $\mu$ M) of S-nitrosoglutathione (GSNO) were studied. GSNO, which releases Nitric Oxide (NO), was added into UW solution during the cold storage period. NO is a vasodilator that acts on hepatic microvascular system protecting the liver from preservation/reperfusion injuries. We compared five groups of livers: a) Normal control (livers neither stored nor reperfused); b) cold stored livers for 48 Hs in UW; c) cold stored livers for 48 Hs in UW + 50  $\mu$ M GSNO; d) cold stored livers for 48 Hs in UW + 100  $\mu$ M GSNO; e) cold stored livers for 48 Hs in UW + 250  $\mu$ M GSNO. Groups **b**, **c** and **e** were reperfused after cold storage. Pieces of rat livers were histologically processed for paraffin embedded after reperfusion. Liver slices were stained with Direct Red 80 – Fast Green and analyzed with polarized microscopy to differentiate collagen type I from type III.

Except livers from group a that showed abundant collagen fibers (collagen type I: red, yellow, white or orange – thin white arrows; collagen type III: green – white empty arrows), all the other groups present less amount of collagen fibers. While collagen type III seem not to be affected by the treatment (cold storage/reperfusion), collagen type I was drastically diminished. Livers from group d conserved some fibers of collagen type I, while the ones of groups **b**, **c** and **e** practically lost them. It seemed that 100  $\mu$ M was the preeminent concentration of GSNO to prevent the complete loss of collagen type I during cold storage in UW solution following by reperfusion.