Endotoxaemia in rats: detection of nitrosyl-haemoglobin in blood and lung by EPR Przemyslaw M.Płonka, Stefan Chłopicki, Beata K.Płonka, Jacek Jawień, Ryszard J.Gryglewski

Production of nitric oxide by its inducible synthase (NOS-2) in endotoxaemic Wistar rats was examined by the EPR spectroscopy using endogenous haemoglobin as a spin trap. Amplitude of the characteristic EPR triplet signal of nitrosyl-haemoglobin was in a linear fashion correlated with the concentration of nitric oxide in a sample. In endotoxaemic rats both blood and lung but neither kidney nor heart revealed the triplet signals. In the isolated blood-perfused rat lung challenged with LPS, triplet signal was also detectable, but interestingly, it was absent in the outflowing. In summary, we detected nitrosyl-haemoglobin EPR signal both in the lung taken from an endotoxaemic rat, and in the isolated lung set-up. The absence of the triplet signal in endotoxaemic kidney or heart as well as in blood outflowing from the isolated lung seems to offer an additional insight into the site of NO production during endotoxaemia.