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Anti-inflammatory effect and toxicology analysis of oral delivery quercetin nanosized emulsion in rats**Gabriela Hädrich**

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This study evaluates the advantage of the quercetin encapsulation in nanosized emulsion (QU-NE) administered orally in rats in order to demonstrate its anti-oedematous and antioxidant effects as well as its toxicity. The nanocarriers were prepared using the hot solvent diffusion with the phase inversion temperature methods. The nanocarriers physicochemical properties were then investigated. The anti-edematous activity was tested using paw edema in rats. In addition, NF- κ B expression in subcutaneous tissue of the paws was accessed by immunohistochemistry while the lipid peroxidation was analyzed in the liver by malondialdehyde reaction with thiobarbituric acid. Hematological, renal and hepatic toxicity as well as the genetic damage were also evaluated. The results demonstrated that QU-NE exhibited pronounced anti-oedematous property comparable to drug diclofenac. This effect was associated with NF- κ B pathway inhibition. The lipid peroxidation was also only reduced in rats treated with QU-NE. Besides this, no genetic damage, hematological, renal or hepatic toxicities were observed after administration of QU-NE. These results suggest that quercetin nanosized emulsion exhibits anti-oedematous and antioxidant properties and does not demonstrate toxic effects. This indicates that it has a potential application in the treatment of inflammatory diseases.

Biography

Gabriela Hädrich is pursuing her PhD from Federal University of Rio Grande, Brazil. She is a visiting PhD student at Martin-Luther Universität Halle-Wittenberg, Germany. She has completed her Master degree in Health Sciences in 2014 and has expertise in Nanotechnology applied to health and microbiology.

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