Abstract

Introduction: Pattern-recognition receptors (PRRs), which include Toll-like Receptor (TLRs) and Nacht leucine-rich repeat proteins (NLRP/NALPs), are molecules of innate immunity able to recognize a wide variety of ligands present in microorganisms and human tissues. Adipocytes (fat cells) may play an important role in the physiological regulation of their own immune responses via TLRs. During obesity, the inflammatory pathway is triggered and insulin responsiveness is altered in fat tissue as a result of TLR4 activation by dietary lipids. Objective: Here, we investigate if other PRR family members could also participate in the inflammatory processes in the adipose tissue of obese mice. Methods: The mRNA expression of TLRs, the NLRP3-inflammasome (NLRP3, ASC, caspase-1 and IL-1beta), IL-6, and TNF in the hepatic and adipose tissues of mice fed with a high fat diet (HFD) were studied by RT-PCR. Results: Adipose tissue from mice fed with a HFD had decreased expression levels of TLR2, TLR6 and TLR7 and was similar to the pattern in hepatic tissue HFD mice. IL-6 and TNF- expression also were decreased in adipose tissue of mice fed with a HFD. NLRP3-inflammasome expression was not modified. Conclusion: These results suggest that the low expression of TLR2, and TLR6 in the mice fed with a HFD could be regulating the inflammation induced by the diet employed in this study.

Keywords
TLR, NLRP3, Adipose, Liver, Fat.