

Elevated neutrophil respiratory burst activity in essential hypertensive patients.

ABSTRACT

Neutrophils play a significant role in maintaining the integrity of innate immunity via their potent respiratory burst activity. However, the uncontrolled activation of respiratory burst in neutrophils also attributes to chronic diseases such as primary hypertension and atherosclerosis. In our study, we have investigated the activation of respiratory burst function of neutrophils harvested from essential hypertensive patients. In the presence of stimuli PMA and opsonized zymosan (OZ), hypertensive patients' neutrophils secrete significantly higher amount of superoxide anions compared to normotensive control. Although the magnitude of activation varies between both groups, yet the kinetics of activation is similar. When normotensive control's neutrophils were pre-treated with hypertensive serum, the cells failed to migrate toward fMLP which indicates the impairment of the migration property. In conclusion, the respiratory burst activity of neutrophils is affected by hypertension and their elevated superoxide anions production could be an aggravating factor in hypertension-related complication

Keyword: Neutrophil; Reactive oxygen species; Respiratory burst.