〈シンポジウム〉
「毛包脂腺系を科学する—にきびと吹き出物」

にきびと活性酸素

赤松 浩彦*, 堀尾 武*

Acne and Reactive Oxygen Species

Hirohiko AKAMATSU,* Takeshi HORIO*

Abstract

Propionibacterium acnes (*P. acnes*) seems to play an important role in the pathogenesis of acne inflammation. *P. acnes* has been reported to produce low-molecular-weight chemotactic factors, resulting in the accumulation of neutrophils at the site of acne comedones. The role of reactive oxygen species (ROS) produced by neutrophils in mediating tissue damage has been shown. The aim of this study was to examine the possible role of ROS generated by neutrophils in mediating acne inflammation. Antibiotics such as tetracyclines is clinically effective in treating acne inflammation. These drugs effectively reduced ROS generation by neutrophils, whereas another antibiotics such as penicillins did not affect the ROS generation by neutrophils. Neutrophils from patients with acne inflammation produced a statistically greater amount of ROS than those from patients with acne comedones. Amount of ROS generated by neutrophils from patients with acne inflammation was significantly decreased after the treatment with oral administration of standard doses of minocycline. In addition, metronidazole, an imidazole, which is known to decrease neutrophil-generated ROS, has been demonstrated to be clinically effective in treating acne. Metronidazole has been shown to be no marked effect on the growth of *P. acnes in vitro*. These findings seem to suggest that ROS generated by neutrophils contribute to the disruption of the integrity of the follicular epithlium.

Key words: *Acne vulgaris*, drug (s), neutrophil (s), reactive oxygen species.