

〈原 著〉

育毛刺激剤のヒト外毛根鞘細胞内カルシウムにおよぼす影響

大津山 實*, 諸橋 正昭*

Effect of Hair Growth Stimulator on the Internal Calcium of Human Outer Root Sheath Cells

Minoru OHTSUYAMA*, Masaaki MOROHASHI*

Abstract

The effect of hair growth promoter on hair follicles remains unclear. In order to know the direct effect of minoxidil and testosterone on outer root sheath cells (ORSCs), we studied the time course of internal calcium concentration of ORSCs using laser scanning microscope by loading Indo-1 (Ca fluorescence) on ORSCs. When ORSCs were stimulated by minoxidil (0.5, 1 mM), intracellular calcium decreased dramatically. On the other hand, testosterone did not affect the intracellular calcium. So far, it has been said that low extracellular calcium induces the cell proliferation. Since the concentration of intracellular calcium moves up and down according to extracellular calcium, it is thinkable that the minoxidil-induced decrease of intracellular calcium tends to proliferate the cells. Minoxidil, K-channel opener, may have a possibility of cell proliferation in its mechanism because K-channel opening of the cells induces hyperpolarization and reduces the intracellular calcium.

Key words: minoxidil, intracellular calcium, outer root sheath cells.