

〈原 著〉

## ツメに対する過酸化水素配合 パーマネント・ウェーブ剤の影響

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### Effect of Permanent Wave Lotion Containing Hydrogen Peroxide on Nail

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#### Abstract

Recently, it was reported that nail damage was caused in hairdressers when they used commercial permanent wave lotions containing hydrogen peroxide in stead of sodium bromate as a neutralizer.

In this study, we determined in vitro the swelling effect of hydrogen peroxide and sodium bromate in neutralizer on nail obtained from healthy volunteers. Increased percentage of nail length immersed in permanent wave lotion was evaluated as degree of damaged nail.

Results were described as follows:

- 1) The increased percentage of nail length immersed in hydrogen peroxide in neutralizer was longer than those of nail length immersed in sodium bromate.
- 2) Nail damage was observed when concentration of hydrogen peroxide in neutralizer was 1% (w/v).
- 3) Four kinds of acids containing hydrogen peroxide in neutralizer showed different percentage of nail length increased.
- 4) High acidity ( $> 1.0$ ) of neutralizer containing acids decreased nail damage.

**Key words:** nail damage, hydrogen peroxide, permanent wave lotion, acidity