

〈シンポジウム〉「基剤と添加物の役割」

## 水素添加ラノリン中の感作物質の分離と同定

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### Allergens of Lanolin

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#### Abstract

This paper reviews studies on lanolin allergy, and especially summarizes the results of author's investigation performed so far.

Components of the allergenic fractions of hydrogenated lanolin were precisely identified by means of gas chromatography-mass spectrometry (GC-MS). It was found that the main aliphatic components of the allergenic fraction were alkane- $\alpha$ ,  $\beta$ -diol and alkane- $\alpha$ ,  $\omega$ -diol. Therefore, these diols were isolated from hydrogenated lanolin by the use of column chromatography, urea adduct method and high performance liquid chromatography. Because these isolated diols showed strong allergic reactions to most patients, it could be confirmed that these were major allergenic components of hydrogenated lanolin.

Allphatic components of hydrogenated lanolin have not only straight alkyl chain (normal-series) but also branched alkyl chain, so called iso- and anteiso-series. Because these isomeric series are considered to be different compounds in terms of the responses to human skin, syntheses and allergenicity of three series of each diol were investigated. As a result, it has been found that normal series of these diols show no positive reactions, however iso- and anteiso-series exhibit allergic reactions. In addition, sensitization of guinea pig with synthetis iso-hexadecane-1, 2-diol was performed, and epidermal challenge to the guinea pig with commercial lanolin alcohol and hydrogenated lanolin both gave positive results. These findings indicates that the branched compounds of these diols are major allergenic constituents of hydrogenated lanolin.