

Mutation analysis for the genes related with contact dermatitis and barrier function in the Japanese population, and analysis for the optimal treatment of contact dermatitis using 3D skin model

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Contact allergy (CD) is an allergy reaction caused by exposure to a substance and the patients with CD suffer from pain and itchy. We usually perform patch test to identify cause of CD. However, there are many causes of CD including metal, detergent and flavoring. While it takes a lot of time to perform patch test and it is difficult to perform it in all clinics. If we can predict a risk of CD, the patients with CD may be decreased. Recent study demonstrated that the genes of barrier function including *FLG* were related with CD. However, it is not clear the relationship between CD and genes of barrier function in Japanese population.

Therefore, we performed mutation analysis of the genes related with barrier function including *FLG*, *FLG2* and *TGM5*. We could not perform sufficient number of cases, and it was difficult to conclude the relationship between CD and genes of barrier function in Japanese population at this point. While the mutations in the *FLG2* gene were identified in several patients with CD. We need further studies to clear the relationship between *FLG2* gene and CD.

We also tried to establish 3D skin model of CD. It was difficult to use cells of the patients with CD, and we tried to make 3D skin models using normal keratinocytes, cytokines including IL-4, and metal.