NATURAL COURSE OF EGG ALLERGY: 
EXPERIENCE FROM A REGIONAL PAEDIATRIC UNIT IN HONG KONG

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BACKGROUND
Egg allergy is increasingly common around the world. There are limited studies on the natural history of egg allergy in Chinese paediatric population, and none in Hong Kong children.

OBJECTIVES
To describe the natural history of egg allergy in Hong Kong, China. To investigate for the factors associated with course of egg allergy.

METHODS
This retrospective cohort study included children who was diagnosed to have immunoglobulin E (IgE)-mediated egg allergy in the Allergy Clinic of Yan Chai Hospital from 2009 - 2018. Baseline clinical characteristics and allergy test results were recorded.

Resolution of egg allergy was defined by passing a standardized oral egg challenge, or the absence of reactions after ingestion of a whole egg.

Kaplan-Meier method was used to estimate the overall persistence of egg allergy. Cox regression analysis was used to identify factors associated with egg allergy resolution.

RESULTS
Among 165 children with history of IgE-mediated egg allergy recruited, 32.3%, 41.4% and 59.8% of children with egg allergy resolved at age of 3, 4 and 5 years, respectively. (Figure 1)

From figure 2, median duration of egg allergy was significantly shorter in egg allergic children with
1. egg skin prick test (SPT) wheal size < 6 mm (5.4 years vs. 7 years, P = 0.005)
2. egg specific immunoglobulin E (sIgE) level < 2 kU/L (5.3 years vs. 6.5 years, P = 0.009)

Multivariable analysis identified age of onset of egg allergy and baseline egg sIgE level less than 2 kU/L were associated with earlier development of tolerance. (Table 1)

CONCLUSION
This pilot study on egg allergy in Hong Kong helps paediatricians and general practitioners to understand the natural history of egg allergy in local children and provide appropriate counselling. It also helps predict the probability of developing egg tolerance at a certain age by using our Kaplan-Meier curves.

With the interpretation of baseline allergy tests (SPT and sIgE) results, our study can also serve as a guide in arrangement of oral challenge tests at suitable age to check for tolerance.