

Anaphylaxis following vaccination among children in Asian: a large-linked database study

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Background

- Anaphylaxis is a severe and potentially fatal systemic reaction that can be triggered by various allergens. The risk of anaphylaxis after vaccination has not been well understood in Asian population.

Objective

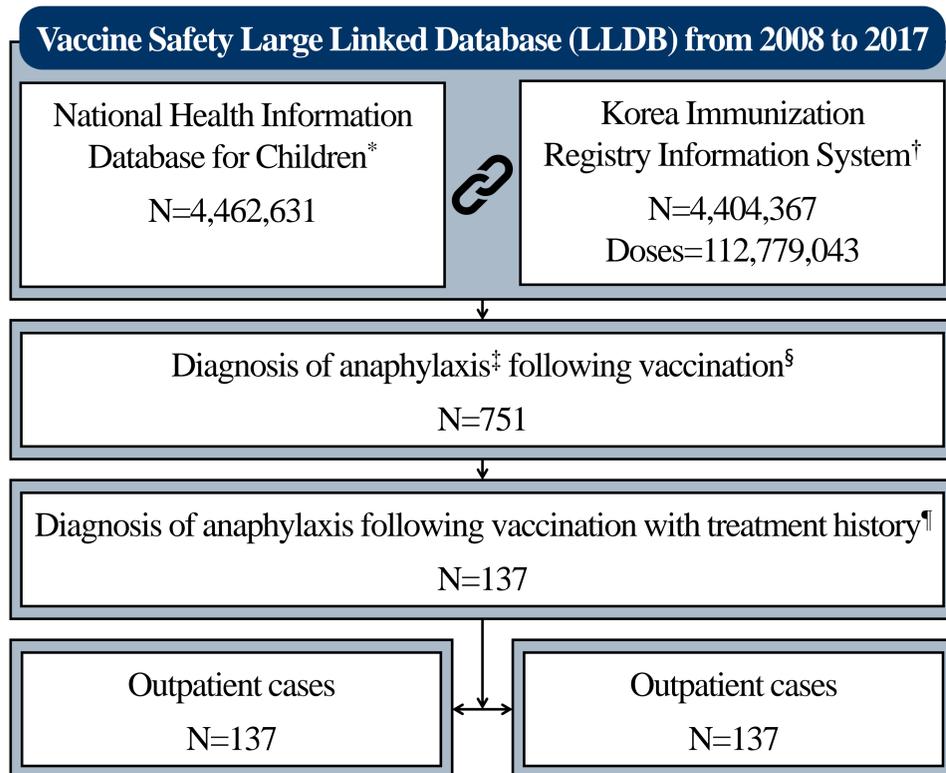
- To assess the vaccine-specific rates in occurrence of anaphylaxis in Korea, by linking National Immunization Program database with National Health Insurance Service database to create a vaccine safety large-linked database (LLDB).

Methods

- The LLDB included data for 4.3 million Korean children aged 0-9 years followed from 2008 to 2017.
- We included all cases that were diagnosed to have anaphylaxis and were treated with epinephrine and/or corticosteroid within 2 days of vaccination. Data on demographic information, type of vaccine, co-administered vaccines, prior history of allergy, atopy, or anaphylaxis were retrieved.
- We calculated the incidence of anaphylaxis after vaccination within the time window of 0-2 days.

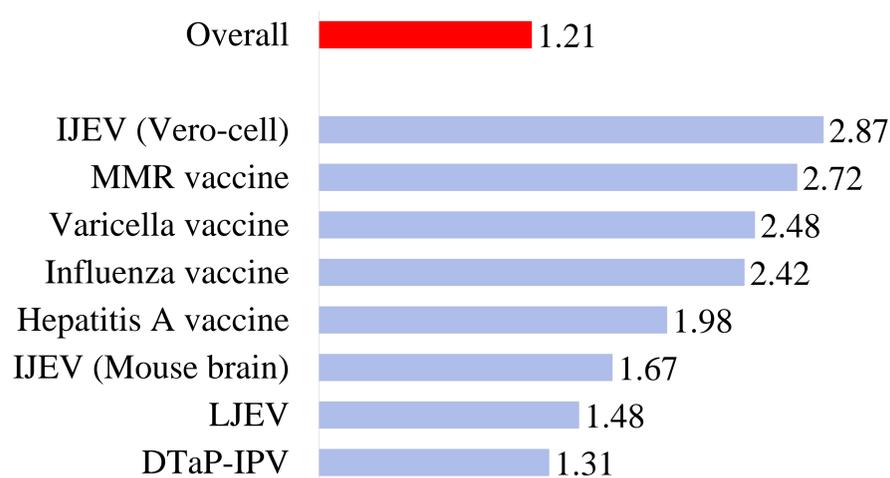
Results

1 Flow diagram of defining anaphylaxis cases



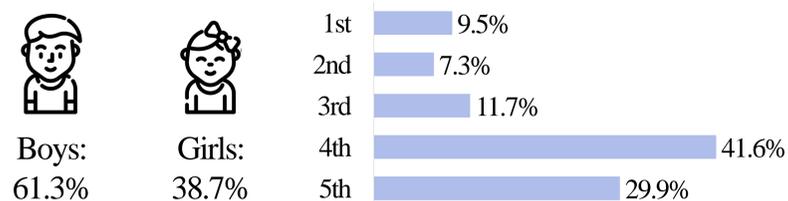
- Among 4,462,631 children, 4,404,367 (98.7%) children were vaccinated at least once, and a total of 112,799,043 vaccine doses were administered.
- We identified 137 cases of anaphylaxis after vaccination, and there were 104 outpatient cases (75.9%) and 33 inpatient cases (24.1%).

2 Incidence of anaphylaxis cases following vaccination



- Incidence of anaphylaxis following vaccination was 1.21 per million doses in children in South Korea.
- Specifically, the incidence following Vero cell-cultured IJEV, MMR, varicella, and influenza vaccines were at least 2-folds higher than the overall incidence.

3 Results from subgroup analyses: Sex, Income level



- We also found that the boys and more affluent children were more likely to be diagnosed with post-vaccination anaphylaxis.

* 1st quantile: most deprived; 5th: most affluent

Conclusions

- Consistent with findings from North America, the overall incidence of anaphylaxis after vaccination was rare in South Korea. Nonetheless, given the potentially life-threatening nature of anaphylaxis, the vaccine providers should be prepared to treat immediate allergic reactions.

Acknowledgement

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