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University.**ADMINISTRATIVE INFORMATION****Support** - Medical Science and Technology Project of Zhejiang Province (grant number 2024KY233).**Review Stage at time of this submission** - Data extraction.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY2024100107**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 25 October 2024 and was last updated on 25 October 2024.**INTRODUCTION**

**Review question / Objective** This study aimed to analyze Immune thrombocytopenia cases following influenza vaccination and assess any potential association.

**Condition being studied** Immune thrombocytopenia is an uncommon but serious adverse reaction after vaccination. However, its association with vaccines other than the measles-mumps-rubella vaccine remains debatable. Vaccination is crucial for disease prevention and ranks as one of the most cost-effective public health measures available. However, as with all vaccines, there is a possibility of adverse effects associated with the influenza vaccine. These events are generally mild and include fever and localized soreness at the injection site. Nevertheless, rare but serious side effects have been reported, such as autoimmune conditions.

**METHODS**

**Participant or population** Patients presenting with symptoms of Immune thrombocytopenia.

**Intervention** Influenza vaccination.

**Comparator** People vaccinated against influenza without developing Immune thrombocytopenia.

**Study designs to be included** Case-control studies, cohort studies, self-controlled case series

**Eligibility criteria** The inclusion criteria for the studies were defined as follows: (1) case reports of ITP following influenza vaccination; and (2) observational studies that reported an odds ratio (OR), incidence rate ratio (IRR), or risk ratio (RR) with a 95% confidence interval (CI) of ITP after influenza vaccination. We excluded (1) duplicate articles; (2) reviews, conference abstracts, or comments; and (3) papers without data or full text.

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**Information sources** Embase, Web of Science, and PubMed databases

**Main outcome(s)** The pooled effect size is expressed as the OR of Immune thrombocytopenia with influenza vaccination compared to no vaccination.

**Quality assessment / Risk of bias analysis** The Newcastle-Ottawa Scale (NOS). Funnel plots, in conjunction with Begg's test and Egger's test, were implemented to assess potential publication bias.

**Strategy of data synthesis** Meta-analysis was carried out using Review Manager 5.3 and Stata 15.0. Cochran's Q and I<sup>2</sup> statistics were employed to assess the heterogeneity among the included studies, and statistical heterogeneity was defined as I<sup>2</sup> > 50%. When I<sup>2</sup> was > 50%, we used a random-effects model to amalgamate the effect sizes; conversely, a fixed effects model was employed.

**Subgroup analysis** Subgroup analyses conducted according to the study design and vaccine type.

**Sensitivity analysis** We performed sensitivity analyses in stata software, using a study-by-study approach to exclude individual studies. Sensitivity analyses were performed to test the robustness of the findings using a study-by-study approach to exclude individual studies.

**Country(ies) involved** China.

**Keywords** Immune thrombocytopenia; association; influenza; vaccination.

#### **Contributions of each author**

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