Report on the Safety of Taking a Second Dose of the Pfizer COVID-19 Vaccine After an Allergic Reaction to the First Dose

Objective

The study aimed to find out if people who had a serious allergic reaction to their first dose of the Pfizer-BioNTech COVID-19 vaccine could safely take a second dose and later a booster. It also examined whether tests like skin checks or antibody levels could predict who might react again.

Method

Researchers carried out a controlled hospital-based trial. Sixteen people who had allergic reactions to their first dose took part. Each received a second dose of the vaccine on one day and a placebo (dummy shot) on another day, without knowing which came first. They were carefully monitored in hospital. About five months later, those without severe repeat reactions were offered a booster in an outpatient setting.

Results

Most participants tolerated the second dose and booster without problems. Only 2 out of 16 people (around 1 in 8) had another allergic reaction. None reacted to the placebo. Some participants experienced stress-related symptoms such as fast heartbeat or tingling, which looked like allergies but were not true allergic reactions. Tests like skin checks or anti-PEG antibody levels did not reliably predict reactions.

Side Effects and Safety

The majority were safe after their second dose and booster. Those who had repeat allergic reactions were treated quickly under medical care. Stress and anxiety often

played a role in causing symptoms that looked like allergies. No other serious side effects were reported.

Conclusion

The study shows that most people who had an allergic reaction to their first Pfizer COVID-19 vaccine dose can safely take another dose and even a booster if done under medical supervision. The chance of another allergic reaction is low (about 12.5%), but close monitoring is important. Stress-related symptoms are common and can be mistaken for true allergies.

Further Research Needed

1. Larger Studies: Include more participants to confirm how often repeat allergic reactions occur.

2. Risk Prediction Tools: Develop accurate tests to identify who is at higher risk of another allergic reaction.

3. Stress and Anxiety Management: Study how stress influences vaccination symptoms and create ways to reduce it.

4. Long-Term Safety: Track participants for a longer time after vaccination to detect delayed side effects.

5. Different Vaccines: Compare safety with other COVID-19 vaccines or new types in people with previous allergic reactions.

6. Practical Guidelines: Design clear instructions for doctors and vaccination centers on safe practices for people with allergy histories.