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SHORT COMMUNICATION

Mucocutaneous Adverse Reactions to COVID-19 Vaccines: Do Excipients Play a Role?

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Mass vaccination programmes are crucial to counter the spread of the SARS-CoV-2 (COVID-19) pandemic. Provision of a 3rd vaccine as a booster dose commenced recently worldwide, with the aim of enhancing immunity and effectiveness of the vaccination programme over time in the context of the emergence of new SARS-CoV-2 variants, including Omicron (1). Randomized controlled trials (RCTs) for COVID-19 vaccines were performed in record time, documenting good safety and immunogenicity profiles (2). Nevertheless, during RCTs and post-marketing phases some immediate (anaphylaxis, urticaria-angioedema syndrome) and, rarely, delayed (maculo-papular eruptions) hypersensitivity reactions were observed (2). Strictly considering mucocutaneous reactions, local injection site (the so-called "COVID arm") and generalized reactions, (urticaria/angioedema, maculopapular, morbilliform and papular-vesicular cine are difficult to establish; the excipients contained in the vaccine could potentially play a role as sensitizers. In view of this, an accurate allergy work-up is recommended when a hypersensitivity reaction to excipients is suspected (4).

Among the COVID-19 vaccines used in Italy, polyethylene glycol (PEG)-2000 is contained in BNT162b2 (Pfizer-BioNTech) and mRNA-1273 (Moderna), tromethamine in mRNA-1273 (Moderna), and polysorbate-80 in AZD1222 (AstraZeneca) and Ad26.COV2.S (Janssen) (2). All of the above excipients are well-known sensitizers, especially responsible for immediate reactions (5).

The aim of this study was to evaluate the sensitizing role of excipients in patients with mucocutaneous adverse reactions after the first-dose COVID-19 vaccine. These patients were referred to us to clarify this issue in order to continue, stop or modify the COVID-19 vaccine programme.