ISSN: 2157-7560
Journal of
Vaccines & Vaccination

OPEN ACCESS Freely available online

Commentary

Vaccines and the Drug-Induced Lung Injury

Buddharaju Lekha*

Department of Pharmacy, Avanthi Institute of Pharmaceutical Sciences, Cherukupally, India

DESCRIPTION

DLIs (drug-induced lung injuries) are adverse medication reactions that occur mostly in the lungs. Cytotoxic medicines, antibiotics, interferon, and anti-rheumatic medications are the main culprits. DLIs have lately been linked to biological response modifiers and molecularly targeted medicines. The most frequent type of DLI is interstitial lung disease. Vaccines have only been linked to DLIs in a few cases. One factor could be proving a causal relation between drugs is challenging. This is especially true for vaccines against the Human Papillomavirus (HPV). The author recently published a case of interstitial pneumonia following vaccination with Cervarix HPV-16/18 adjuvant system 04 (AS04) vaccines.

Cervarix was taken three times by a middle-aged woman with no history of pulmonary illness. Three months following the last vaccine, non-specific interstitial pneumonia emerged. A lung biopsy sample revealed lymphocytic alveolitis, indicating that cell-mediated immunity played a role in the incidence. The patient's serum indicators for interstitial pneumonias, such as Krebs von der Lungen (KL)-6 and Surfactant Protein (SP)-D, were elevated. Other factors, besides from vaccination, were ruled out. The interstitial pneumonia spontaneously cleared with complete remission of chest radiographic abnormalities and serum biomarkers, which was noteworthy. The self-limiting nature of the interstitial pneumonia showed that it happened in tandem with the immunisation.

For safety considerations, a re-challenge test to Cervarix was not done. Based on the clinical course, chest imaging, pathological findings, and specific use of Cervarix, the interstitial pneumonia was finally identified as a DLI. The first step in diagnosing DLIs is to assume that all medicines can cause harm to lungs. DLIs can occur long after the treatment has been completed, which is not the case with vaccines. Clinical judgments have been used to diagnosis the majority of vaccine-associated DLIs. Although there are no gold standard tests for the diagnosis of DLIs, the Naranjo algorithm can be used to estimate the likelihood of an adverse reaction. In terms of assessment, such algorisms can diminish inter- and intra-individual variability. The results of chest imaging are non-specific, however they can help with early diagnosis.

KL-6 and SP-D measurements may be useful in the diagnosis of DLIs. The diagnostic utility of an *in vivo* drug stimulation test using peripheral lymphocytes is fairly restricted. More research is needed to create more sensitive and specific diagnostic tools for medication adverse reactions. Several kinds of DLIs, including acute respiratory distress syndrome, have been linked to influenza vaccines. The median age of onset was somewhat advanced (59 years). In four of the individuals, previous pulmonary illnesses were present. All of the patients were experiencing severe symptoms. It took 1 to 10 days for the symptoms to appear.

Cervarix, unlike influenza vaccines, resulted in a moderate, subclinical form of DLI. What effect did Cervarix have on the lungs? Drugs can operate as an unequal terms in the disease process of DLIs, interacting with immune receptors and triggering danger signals. Immune-mediated DLIs are thought to be caused by these processes. The Cervarix-associated DLI was most likely to blame for these events. The pathologically demonstrated lymphocytic alveolitis was associated with cell-mediated immune responses as a result. Because of its high immunogenicity, the AS04 adjuvant appears to be the most responsible of the Cervarix ingredients.

Large-scale studies have found no evidence that AS04-adjuvanted vaccinations enhance the risk of autoimmune disease. When the respondents are stratified by age, the tendency remains substantial. Immune-mediated diseases examined, on the other hand, are limited to gastrointestinal, metabolic, musculoskeletal, neuro inflammatory, and skin problems. There are no conditions mentioned for the lungs, including interstitial pneumonia. More research is needed to determine the prevalence, consequences, and risk factors of Cervarix-related DLI.

Correspondence to: Buddharaju Lekha, Department of Pharmacy, Avanthi Institute of Pharmaceutical Sciences, Cherukupally, India, E-mail: lekhab1443@gmail.com

Received date: December 06, 2021; **Accepted date:** December 20, 2021; **Published date:** December 27, 2021

Citation: Lekha B (2021) Vaccines and Drug-Induced Lung Injury. J Vaccines Vaccin. S16:004.