**Clinical significance of Aspergillus sensitisation in bronchial asthma.**

Department of Chest and Tuberculosis, Govt. Medical College, Patiala, Punjab, India.

Author 1: Dr. Don Gregory

Author 2: Dr. AP Kansal

Author 3: Dr. Vishal Chopra

Author 4: Dr. Parul Mrigpuri

**Abstract:**

Asthma is one of the most common chronic diseases, with an estimated 300 million individuals affected worldwide. Inhalant allergens, in patients with allergic asthma, play a key role in bringing about the inflammation present in the airways. Fungi are increasingly being recognized as important inhalant allergens. Among the fungi, *Aspergillus*, a genus of spore-forming fungi found worldwide is linked to asthma in many ways.

**Aim :** To study the clinical significance of Aspergillus sensitisation in asthma.

**Material and Methods:** The case control study was done where 150 asthma patients and 150 healthy volunteers were observed for skin hypersensitivity by Aspergillus skin test , 0.2 ml of *Aspergillus* antigens (A. fumigatus*,* A. niger, A. flavus, A. versicolor and A. tamari) were injected intradermally in the other forearm at 4cm intervals. The injection site was examined after 15 min. The reactions were labeled as immediate reaction if wheal and erythema developed within 1 min, reached a maximum after 15 min.A wheal of 3mm or more was considered positive

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Aspergillus Skin Test for any of the antigen** | **Cases** | | **Control** | |
| **Bronchial Asthma**  **(n=150)** | | **Normal Healthy Volunteers**  **(n=150)** | |
| **No.** | **%age** | **No.** | **%age** |
| **Negative** | 41 | 27.4 | 145 | 96.7 |
| **Positive** | 109 | 72.6 | 5 | 3.3 |

The above table shows skin hypersensitivity to any of the *Aspergillus antigen in 109(72.6%) cases of* bronchial asthma group. While 5 (3.3%) showed skin hypersensitivity among the controls.

**Discussion:** Asthma is an inflammatory disease of the airways characterized by airway hyperresponsiveness and airflow limitation. Sensitization to Aspergillus conidia occurs in asthmatic subjects when the thick secretions, which are usually present in the airways, trap the fungal spores. This generally develops in atopic subjects and is sustained by the continuous inhalation of Aspergillus antigens, resulting in acute asthma. Aspergillushypersensitivity can be considered as the first step in the development of ABPA, and ABPA can be conceptualised as an exaggerated form of Aspergillus hypersensitivity.

**Result and Conclusion:** Aspergillus skin hypersensitivity is an indicator of development of ABPA and there is a high rate Aspergillus skin hypersensitivity in patients of bronchial asthma hence patients with bronchial asthma should be screened with aspergillus skin test.