IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 23, Issue 5 Ser. 8 (May. 2024), PP 41-44
www.iosrjournals.org

A Study OnPrevalance Of Allergic Rhinitis During Covid 19 Pandemic In A Tertiary Care Centre, Maduranthagam

Dr. M.Ajaiy, Dr.K.Shyamala, Department of ENT, Karpaga Vinayaga Institute Of Medical Sciences And Research Centre, Maduranthagam, Tamilnadu, India

Abstract:
Introduction*: allergic rhinitis is a inflammatory condition with clinical manifestation of sneezing, nasal congestion, itching and rhinorrhea. Skin prick test is usually done to identify the type of allergen (Indoor/outdoor) for treatment of allergic rhinitis. We test a sequence more than10 Allergens which includes both indoor and outdoor allergens.*
Aim*: To Assess the Prevalance of Allergic rhinitis during covid 19 pandemic.*
Material and methods*: a total of 56 patients taken into study with the period of six months using skin prick testing. We used various types of allergens with its subtypes.*
Results*: out of 56 patients, there was slight pre ponderance in male than female. Most common allergen is dust mite with most common subtype of dust mite was Dermatophagoides pteronyssinus.*
Conclusion:*Increased stay at home increased the exposure to the allergens in the home and decreased sun exposure causes the increase incidence of allergic rhinitis*

Date of Submission: 11-05-2024 Date of Acceptance: 21-05-2024

I. Introduction:

Allergic rhinitis (AR) is an inflammatory nasal airway disease in which production of inflammatory mediators and inflammatory cell infiltration are prominent. Allergic rhinitis is characterized by inflammatory changes in the nasal mucosa caused by exposure to inhaled allergens. The clinical manifestations are sneezing, nasal congestion, nasal itching, and rhinorrhea. It is a global health problem. Newly diagnosed allergic rhinitis have been found during covid 19 pandemic[1,5]. The study deals with assessing common allergens causing Allergic rhinitis during covid 19 pandemic.

Allergic rhinitis is defined clinically as having two or more symptoms of rhinorrhea, sneezing, nasal blockage and/or itching of nose during two or more consecutive days for more than one hour on most days. It is an Ig E mediated disease. Diagnosis of allergen plays a important role in treatment of allergic rhinitis.

Skin prick test is usually done to identify the type of allergen (Indoor/outdoor) for treatment of allergic rhinitis[3]. Skin prick test is a common diagnostic procedure in which allergens have been introduced in patients forearm by using a prick method with a lancet[2,4]. Here saline and histamine have been used as a control[9,11]. We test a sequence of more than 10 Allergens which includes both indoor and outdoor allergens.

Aim
To Assess the Prevalance of Allergic rhinitis during covid 19 pandemic

II. Materials And Methods

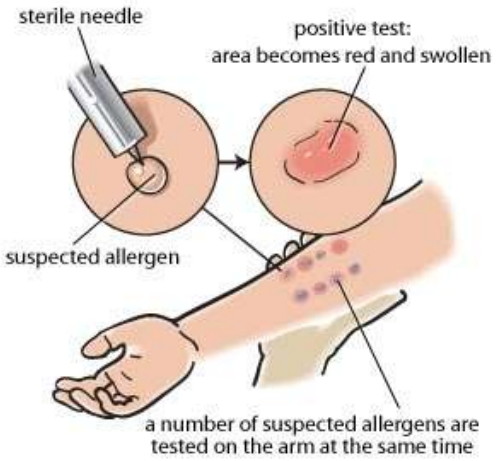
This study is a retrospective study done in Department of ENT, Karpaga Vinayaga Institute of Medical Sciences and Research Centre, Maduranthagam , Tamil Nadu from the date of March to September 2023 for a period of six months. A total of 56 patients were included in this study who presented to the department with the symptoms of allergic rhinitis and age above 18 years and the ones who are already a known case of allergic rhinitis and bronchial asthma are excluded from this study. In this study allergic rhinitis is monitored using skin prick test.

Skin prick test is a standardized investigation which is widely used in the diagnosis of allergic rhinitis. This test can be done by using specific allergens like dust mite, house dust, insects like cockroach and mosquito, dander and various pollen dust are introduced in the volar side of the forearm. In this we use positive and negative controls such as saline and histamine respectively.

The allergens used in this study were

Table 1

Allergens	Subtypes
Dust mite	Dermatophagoidespteronyssinus Dermatophagoidesfarinae
Fungi	Aspergillus flavus Aspergillus fumigatus Candida albicans Rhizopus nigricans
Insect	Cockroach Mosquito
Dust	House dust Paper dust
Dander	Cat dander Dog dander Cow dander Chicken dander Pigeon dander
Pollen	Parthenium hysterophorus Ricinus communis Sorghum vulgare Cocos nucifera Prosopis juliflora Xanthium strumarium Carica papaya Cynodondactylon Azadirachta indica



III. Results

In this study of fiftysix people we have 29 males and 27 females, with slight male preponderance. Here we have used six types of allergens in the skin prick test with each having its various subtypes to be specific. The mean age in this study with standard deviation is 32.66±10.67. The above demographic data in this study has been given in table 2.

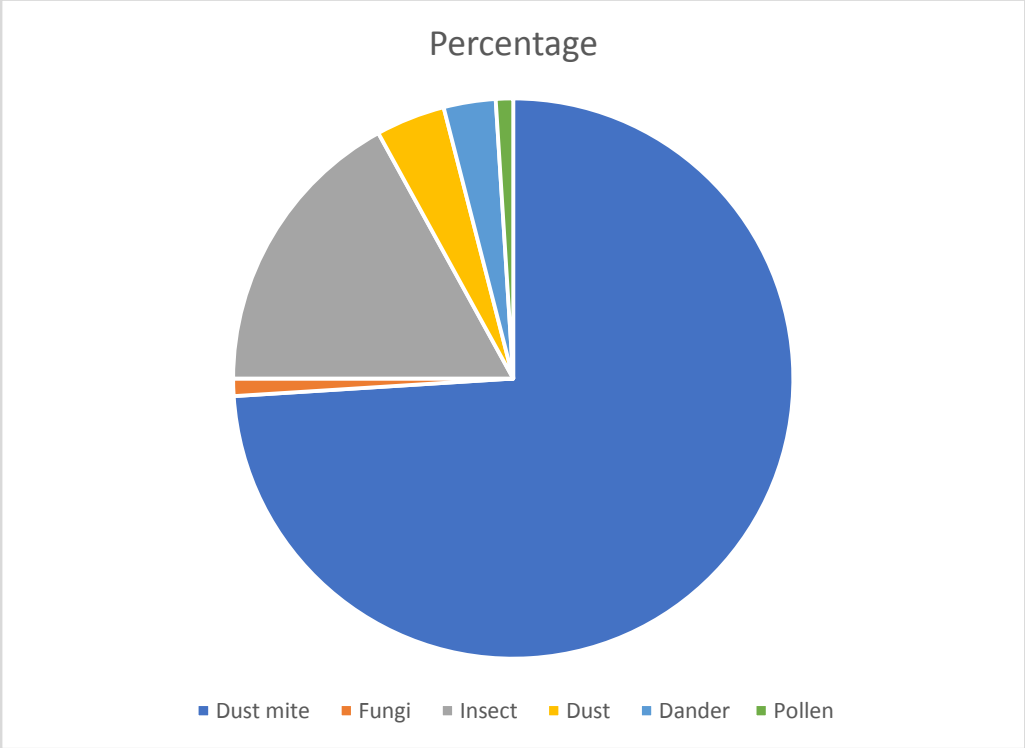
Table 2

	Frequency	**Percentage**
Male	29	51.78
Female	27	48.21
	Mean	**SD**
Age	32.66	10.67

In this above study all the individuals with allergic rhinitis are newly diagnosed post covid pandemic. Because of the pandemic most of the employment was made as telework, since then people are exposed more to the household and the allergens in and around. With the above allergens used the most common was the dust mite and with second common was cockroach. The most frequent sub types of the dust mite causing allergic rhinitis is Dermatophagoidespteronyssinus. The incidence of the type of allergen causing allergic rhinitis post the covid pandemic is described in table 3.

Table 3

Allergens	**Percentage**
Dust mite	74
Fungi	1
Insect	17
Dust	4
Dander	3
Pollen	1



Few of the individuals have multiple allergens positive for allergic rhinitis.

IV. Discussion

Allergic Rhinitis can be clinically defined as an inflammatory condition of the nose characterized by nasal block, sneezing, itching or rhinorrhoea. According to World Allergy Organization estimates, the incidence of allergic rhinitis ranges from 10 - 30% worldwide[15]. The documented incidence of allergic rhinitis in India falls within the range of 20% to 30%[17]. Although lockdown measures were effective to fight covid, the population in our studyreported a significant worsening of known allergic rhinitis symptoms and increased incidence of newly diagnosed allergic rhinitis during the national wide lockdown[6,7], probably due to increased exposure to indoor allergens. There is increased incidence in allergic rhinitis due to decreased exposure to sunlight and being indoor for a long time due to work from home situation[13]. This study with the period of six months, patients visited the ENT opd with allergic symptoms for which we did skin prick test and found out the specific allergens causing the allergy. Post pandemic we came across many patients with newly diagnosed allergic rhinitis[14]. We used various specific allergens and its subtypes to detect the allergens causing it. Of those, dust mite seems to be the most common of all the allergens and Dermatophagoidespteronyssinus is the most causative subtypes among the dust mite[8,10]. Then followed by insect and then by the dander, dust and pollen. Most common cause for the increased incidence of allergic rhinitis in work from home population was very limited exposure to sun and spending most of the time indoors[16].

V. Conclusion

In conclusion, the increased stay at home increased the exposure to the allergens in the home and decreased sun exposure causes the increase incidence of allergic rhinitis[12]. This result suggests that allergen sensitivity which is responsible for majority of the patients is dust mite withDermatophagoidespteronyssinus to the most common subtype. This seems to be indirect effect of covid causing newly diagnosed allergic rhinitis in mainly work from home population.

References

[1] Pérez-Herrera Lc, Ordoñez-Ceron S, Moreno-Lopez S, Peñaranda D, García E, Peñaranda A. Impact Of The Covid-19 National Lockdown In The Allergic Rhinitis Symptoms In Patients Treated With Immunotherapy At Two Allergy Referral Centers In Bogotá, Colombia. Laryngoscope Investigative Otolaryngology. 2022;7(2):305-315. Doi:10.1002/Lio2.738

[2] Immaculate F. Nevis, Karen Binkley And Conrad Kabali. Diagnostic Accuracy Of Skin-Prick Testing For Allergic Rhinitis: A Systematic Review And Meta-Analysis. Nevis Et Al. Allergy Asthma Clin Immunol (2016) 12:20 Doi 10.1186/S13223-016-0126-0

[3] Hany S. Mostafaa , Mohamed Qotba , Mohammed A. Husseina , Ahmed Hussein. Allergic Rhinitis Diagnosis: Skin-Prick Test Versus Laboratory Diagnostic Methods. The Egyptian Journal Of Otolaryngology 2019, 35:262–268.

[4] P. U. Ibekwe And T. S. Ibekwe. Skin Prick Test Analysis In Allergic Rhinitis Patients: A Preliminary Study In Abuja, Nigeria. Hindawi Publishing Corporation Journal Of Allergy Volume 2016, Article Id 3219104, 5 Pages Http://Dx.Doi.Org/10.1155/2016/3219104.

[5] F. C¸ Elebi C¸ Elik, Ö. Soyöz , Ö. Sancaklı , S. Özen Bölük , I. Tas¸ Kırdı , M.S¸ Kaya , I. Akay Hacı , A. Demir , C.S¸ . Karkıner , D. Can. The Effect Of The Covid-19 Pandemic Lockdown On Symptom Severity In School Children With House Dust Mite-Sensitized Allergic Rhinitis. Https://Doi.Org/10.1016/J.Reval.2022.07.006.

[6] Matteo Gelardi, Eleonora M.C. Trecca , Francesca Fortunato , Lucia Iannuzzi , Gianluca Ronca, Nicola A.A. Quaranta , Michele Cassano. Covid-19 Lockdown And Seasonal Allergic Rhinitis: Our Experience In 40 Patients. Acta Biomed 2021; Vol. 92, N. 2: E2021215 Doi: 10.23750/Abm.V92i2.10953.

[7] Abhishek Kishore Dayal, Vineet Sinha. Trend Of Allergic Rhinitis Post Covid-19 Pandemic: A Retrospective Observational Study. Indian J Otolaryngol Head Neck Surg (Jan–Mar 2022) 74(1):50–52.

[8] Nimet Demirtaş, Emel Ceylan, Sevin Kırdar, Fisun Karadağ, Orhan Çildağ. The Effect Of Indoor Environmental Characteristics On The Detection Of House Dust Mite Der P2 And Der F2 In Asthmatics. Meandros Medical Journal 2016;17:129-37.

[9] Teresa Stemeseder , Eva Klinglmayr , Stephanie Moser, Lisa Lueftenegger, Roland Lang , Martin Himly, Gertie J. Oostingh , Joerg Zumbach, Arne C. Bathke , Thomas Hawranek, Gabriele Gadermaier. Cross-Sectional Study On Allergic Sensitization Of Austrian Adolescents Using Molecule-Based Ige Profiling. Experimental Allergy And Immunology.

[10] Dhruba Sharma,B. K. Dutta, And A. B. Singh. Dust Mites Population In Indoor Houses Of Suspected Allergic Patients Of South Assam, India. International Scholarly Research Network Isrn Allergy Volume 2011, Article Id 576849, 7 Pages Doi:10.5402/2011/576849.

[11] C.A. Ahlstrom-Emanuelsson, L. Greiff, M. Andersson, C.G.A. Persson , J.S. Erjefa¨Lt. Eosinophil Degranulation Status In Allergic Rhinitis: Observations Before And During Seasonal Allergen Exposure. Eur Respir J 2004; 24: 750–757 Doi: 10.1183/09031936.04.00133603.

[12] Caraballo L, Zakzuk J, Lee Bw, Et Al. Particularities Of Allergy In The Tropics. World Allergy Organ J. 2016;9(20):20. Doi:10.1186/S40413-016-0110-7

[13] Yucel E, Suleyman A, HizliDemirkale Z, Guler N, Tamay Zu, Ozdemir C. 'Stay At Home': Is It Good Or Not For House Dust Mite Sensitized Children With Respiratory Allergies? Pediatr Allergy Immunol. 2021;32(5):963-970. Doi:10.1111/Pai.13477.

[14] Urrunaga-Pastor D, Bendezu-Quispe G, Herrera-Añazco P, Et Al. Cross-Sectional Analysis Of Covid-19 Vaccine Intention, Perceptions And Hesitancy Across Latin America And The Caribbean. Travel Med Infect Dis. 2021;41:102059. Doi:10.1016/J.Tmaid.2021.102059.

[15] Hoehle Lp, Speth Mm, Phillips Km, Et Al. Association Between Symptoms Of Allergic Rhinitis With Decreased General Health–Related Quality Of Life. Am J Rhinol Allergy. 2017;31(4):235-239. Doi:10.2500/Ajra.2017.31.4444.

[16] Bousquet J, SchünemannHj, Togias A, Et Al. Next-Generation Allergic Rhinitis And Its Impact On Asthma (Aria) Guidelines For Allergic Rhinitis Based On Grading Of Recommendations Assessment, Development And Evaluation (Grade) And Real-World Evidence. J Allergy Clin Immunol. 2020;145(1):70-80.E3. Doi:10.1016/J.Jaci.2019.06.049.

[17] Chandrika D. Allergic Rhinitis In India: An Overview. Int J Otorhinolaryngol Head Neck Surg2017;3:1-6