



UNEXPLAINED BRADYCARDIA IN YOUNG INDIVIDUALS- COULD RAISED IMMUNOGLOBULIN E, BE A CAUSE?

Cardiology

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ABSTRACT

Background: There are variety of established causes of bradycardia (Heart rate <60 bpm), including cardiac & non cardiac diseases, medications & age related degeneration. In few cases we found bradycardia without obvious causes. The patient's, specially in young individuals (age<40 yrs) who have allergic symptoms with bradycardia but without any obvious cause, hyperimmunoglobulin E can be a possible cause. **Methods:** This prospective, cross sectional study included 64 patients aged under 40 years whole have allergic symptoms & ECG showed bradycardia, and in whom no obvious cause of bradycardia was found. In all these cases we have checked S. Immunoglobulin level E & other necessary investigations. **Results:** Total 64 patients was enrolled with one year of period, among them 42(65.6%) was male & 22(34.4%) was female. Majority of the pt, n-40(62.5%) was in age group 11-20 years. Total 58 patients S. Immunoglobulin level was found raised, other 6 patients was found within normal range, which is statistically significant ($p<0.05$). Follow up ECG & S. Immunoglobulin E was done after 4-6 weeks of symptomatic treatment & found heart rate become normalized with normalized/decreased level of S. Immunoglobulin E. No patients developed any complications during the study period. **Conclusion:** Raised S. Immunoglobulin E can be a possible cause of bradycardia in young individuals, especially whole have allergic symptoms with no obvious cause of bradycardia.

KEYWORDS

Bradycardia, Raised Immunoglobulin E, Young Individuals

INTRODUCTION:

S. IgE is an antibody, found in the blood that is a marker for allergy diseases. People who have elevated S. IgE levels can have environmental or food allergies [1][2]

In contrast to IgG antibodies, which have a half-life of about 3 weeks, IgE is very short-lived in plasma (half-life, <1 day), but receptor-bound IgE can remain fixed to mast cells in tissues for weeks or months. This long tissue half-life has significant clinical implications [2][3][4]

Increased levels of IgE may contribute to symptoms of asthma, such as: Wheezing, Chest tightness, Shortness of breath, Recurrent cough etc [4] [5]. H1 antihistamines significantly improved. There was a significant decrease of eosinophils, total IgE, and FeNO after treatment[6]

In patients who have raised S. IgE can present with some cardiac manifestations, nonspecific chest pain & sometime bradycardia may happen. Bradycardia even may happen after IVIG therapy also [9]. In persistent raised of S. IgE pt may developed ischemic heart disease & myocarditis also. Acute SOB sometime overlap the clinical correlation [7][8]

METHODS & RESULTS:

This prospective, cross sectional study included 64 patients aged under 40 years whole have allergic symptoms & ECG showed bradycardia, and in whom no obvious cause of bradycardia was found. In all these cases we have checked S. Immunoglobulin level E along with other necessary investigations.

Total 64 patients was enrolled with one year of period, among them 42(65.6%) was male & 22(34.4%) was female. (Figure 1).

Majority of the pt is in age group 11-20 years (n-40), 10 pt was age 10 or less, 9 pt was in age group 21- 30. & 5 pt was in age group 31-40. (Figure 2).

Total 58 (91%) patients S. Immunoglobulin level was found raised,

other 6 (9%) patients was found within normal range, which is statistically significant ($p<0.05$). (Table 1)

Follow up ECG & S. Immunoglobulin E was done after 4-6 weeks of symptomatic treatment & found heart rate become normalized with normalized/decreased level of S. Immunoglobulin E. No patients developed any complications during the study period.

DISCUSSION:

Raised S. Ig E is usually associated with allergic symptoms. We have found unexplained bradycardia & checked for S. IgE & which found statistically significant. This type of bradycardia is asymptomatic & does not required any cardiac intervention. When S. IgE level is decreased or normalized this bradycardia also become normalized. There are many established cause of Bradycardia

CONCLUSION:

Raised S. Immunoglobulin E can be a possible cause of bradycardia in young individuals, especially whole have allergic symptoms without any other established cause of bradycardia.

This is a single center study & sample size is low. Need further large scale study before making a conclusion.

Figure & Charts:

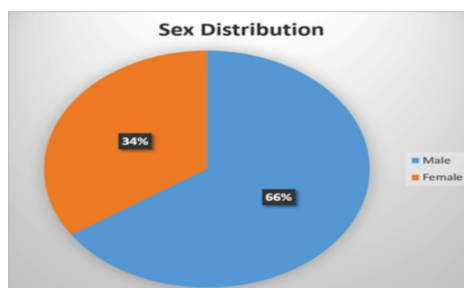


Figure 1: Pie chart showing sex distribution

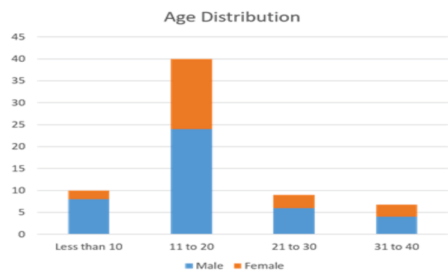


Figure 2: Bar diagram showing Age distribution

Table I: Distribution of S. IgE level (N=64)

S. IgE	Raised	Normal	P value*
	n-58	n-06	.004S

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