

Case Report on Management of Rheumatic Valvular Heart Disease with Autoimmune Gastritis.

1] Ms. Sonali R. Vishwakarma* 2] Ms. Bhagyashree Ganeshpure 3] Shital Telrandhe 4] S. M. Waghmare

1 GNM 2nd year, Florence nightingale Training College Of Nursing , Sawangi (M), Wardha ; Email: vishwakarmasonali885@gmail.com; Mob. No. 9145316347

2 Nursing Tutor , Florence nightingale Training College Of Nursing , Sawangi (M), Wardha ,India. Email: bhagyashree1706@gmail.com ; Mob. No. 8805297654.

3 Research Consultant, Jawaharlal Nehru Medical College, Datta Meghe Institute of Medical Sciences, Wardha.

4 Dept. of Civil Engineering, Yeshwantrao Chavan College of Engineering, Nagpur. Email: smwaghmare@ycce.edu

Abstract:

Background: Rheumatic heart disease is systematic immune process that sequence to a beta - hemolytic streptococcal bacterial infection of the pharynx. Autoimmune gastritis is a long-term inflammatory condition that leads to mucosal atrophy. It's critical to recognize that chronic atrophic gastritis is not the same as AIG, as chronic atrophic gastritis results in mucosal atrophy. **Present complaints and investigation:** A case of 62 year old female admitted in AVBRH on dated 23/04/2021 with chief complaint of chest & joint pain, vomiting, lack of appetite, weakness, shortness of breath Since 2 Month. **Investigation:** Hemoglobin is decreased 8.2gm/dl, RBC count is increased 6.92 million /cell, Prothrombin level is Decreased 8.4, stool test, upper endoscopy, upper gastrointestinal exam carried out & after that .Doctor diagnosed Autoimmune Gastritis with Rheumatic valvular heart disease. **Past history:** 2 month before she was admitted in Medical Hospital Nagpur for Rheumatic valvular heart disease .she took the treatment for that. After physical examination and investigation doctor diagnose a case rheumatic valvular heart disease and autoimmune gastritis Tab. ecosprin 75mg. Tab. Digoxin 0.5 mg. Inj. metro 100ml iron supplements. Vitamin B12 was given 10 days to help immune system fight to disease condition. **Conclusion:** she was response to all medication as well as doctor treatment and her recovery was good

Keywords: Autoimmune, Gastritis, Rheumatic fever , Rheumatic heart disease

Introduction:

Rheumatic heart disease (RHD) is a life-threatening heart illness caused by damage to heart valves as a result of one or more episodes of rheumatic fever, an autoimmune inflammatory response to streptococcal bacterium infection (streptococcal pharyngitis or strep throat). Rheumatic fever (RF) is an autoimmune disease caused by the gram-positive bacterium *Streptococcus pyogenes*, which develops in children who have had an untreated throat infection¹ Rheumatic heart disease is systematic immune process that sequence to a beta - hemolytic streptococcal bacterial infection of the pharynx. In developing countries, Rheumatic heart disease is linked to an increased risk of cardiovascular morbidity and mortality.² The triggering factor in rheumatic fever and rheumatic heart disease is thought to be molecular mimicry between streptococcal and human proteins.³

Autoimmune gastritis is a chronic inflammatory condition characterized by the loss of parietal cells in the stomach's corpus and fundus.⁴ autoimmune gastritis is a long-term inflammatory condition that leads to mucosal atrophy. It's critical to recognize that chronic atrophic gastritis is not the same as AIG, as chronic atrophic gastritis results in mucosal atrophy. autoimmune gastritis is an organ-specific immune-mediated disease defined by the killing of gastric parietal cells, which results in a loss of intrinsic factor and a reduction in acid output.⁵ *Helicobacter pylori* is the most common bacterium that causes stomach illness and long-term problems.⁶ A Chronic gastritis is not dangerous in and of itself, but it can progress to other issues, such as ulcers, just like acute gastritis. It also has the potential to progress to a more serious level.⁷

In undeveloped countries like India, RHD is still a severe health problem. RHD is still a serious health issue in developing countries such as India and the true frequency of the disease must be established in order for health planners to distribute funds.⁸ In India (population 1.3 billion), the overall prevalence of RHD is estimated to be 1.5-2/1000 in all age categories, implying that there are approximately 2.0 to 2.5 million RHD patients. Gastritis affects 25-33 percent of the population in India, according to one study. The majority of those who are sick are between the ages of 15 and 50. Although autoimmune gastritis (AIG) is uncommon, we see it frequently in patients at our hospital who have had at least two episodes of *Helicobacter pylori* eradication failure.⁹

Patient information: A case 62-year-old female admitted in Acharya Vinoba Bhave rural Hospital with complaints of chest and joint pain, Shortness of breath, weakness, lack of appetite, since 2 months. Vomiting since 1 week .

Primary concern and symptoms: When she developed pain in chest and joint pain, shortness of breath she was apparently alright 2 months back. pain in joint , vomiting , chest pain, since 2 months these were the primary symptoms which was observed at the time of admission. now she was admitted medicine ward in AVBRH for further management of that all routing examination and investigation carried out and doctor dignosed Autoimmune Gastritis with Rheumatic valvular heart diseasefor that oral iron supplement was given , oral ferrous glycine sulfate ,vitamin B12 short injection was given , ecosprin 75mg ones a day , Tab. digoxin 0.05mg ones a day , inj. feptan 45mg TDS was given, iv fluid administered are given .

Medical, family and psychosocial history :-she was admitted 2 month before in the Nagpur hospital for 10 days for the treatment of rheumatic valvular heart disease and After, upper endoscopy was observed autoimmune gastritis she took treatment for that and her outcome was not good. She belongs to nuclear family. All family members are healthy except the patient. She maintained good interpersonal relationship between the family members and there was no family history of diabetic, hypertension, asthma, patient looks anxious, and depressed .her bowel and bladder habits was abnormal, sleeping pattern is disturbed due to chest pain and abdominal pain and not having any bad habits like tobacco chewing etc.

Physical Examination: On arrival, she was Afebrile and conscious, co-operative, well oriented. She was thin body built, the height of patient was 146 cm and weight is 45kg. Her vital parameters are normal.

Her chest and abdomen finding were abnormal mucous membranes discoloration were noted. Examination of chest - breathing pattern- was abnormal, Heart sound- murmur sound was present. Pain was present .Examination of abdomen- no any rashes, Tenderness was present, No any pus formation. Hemorrhoids present, examination of extremities joint pain was present.

Timeline : she was admitted 2 month before in the Nagpur hospital for 10 days for the treatment of rheumatic valvular heart disease .currently she was admitted for autoimmune gastritis with rheumatic valvular heart disease in AVBRH hospital for treatment ,iron infusion was given , oral iron supplement was given , oral ferrous glycine sulfate was given , vit.B₁₂ short inj. was given , Ecosprin 75mg ones a day , Tab. digoxin 0.05mg ones a day , inj. feptan 45mg TDS was given to treat rheumatic disease and Autoimmune gastritis.

Diagnostic Assessment: Based on patient history, physical, chest and blood examination hemoglobin is decreased 8.2gm/dl, WBC Count 140500cu.mm increased, RBC count is increased 6.92 million/mm³, Prothombin level is Decreased 8.4. Second. Vitamin B 12 level was reduces. urine exam. (Routing) albumin was nil, pus cell & epithelial cell was 1-2 cells/ HPF ,Urine examination was normal. Chest MRI and abdominal ultrasound abnormal finding- ulcers shows. RTPCR Negative .

Diagnostic challenging: No any challenging during diagnostic evaluation.

Diagnosis: The doctor diagnosed Rheumatic Valvular Heart Disease with Autoimmune Gastritis after a physical examination and investigation.

Therapeutic intervention : Medical management was provided to the patient iron infusion was given , oral iron supplement was given , oral ferrous glycine sulfate was given to correct anemia , vitamin B12 short injection was given , ecosprin 75mg ones a day , Tab. digoxin 0.05mg ones a day , inj. Feptan 45mg TDS was given, tab limcee was given od ,iv fluid administered for maintained electrolyte balance. she was took all treatment and outcome was good . After assessment and treatment, the patient's sign and symptoms were reduced and she was able to do her own activity on her own.

No any change in therapeutic intervention.

Outcome and follow-up: Patient was respond to the treatment and counseling, her hemoglobin levels were increased. The patient symptom was resolved and discharge was given to patient.

Discussion:

A case 62-year-old female admitted in Acharya vinobha bhav rural Hospital with complaints of chest and joint pain, Shortness of breath, weakness, lack of appetite, since 2 months. Vomiting since 1 week. Now she came to AVBRH for further treatment. Investigation and physical examination were carried out the patient was diagnosed with Rheumatic valvular heart disease and autoimmune gastritis for that treatment were taken patient resolved symptom.

Autoimmune gastritis is associated with an increased risk of cancer due to atrophy and intestinal metaplasia. To identify the increase progressive risk forms, two new classifications, There have been proposed Operative Links on Gastritis Assessment and Operative Links on Gastritic Intestinal Metaplasia Assessment (stages III and IV).¹⁰ Zhang's research discovered a prevalence of 19.5 percent positive parietal-cell antibodies (PCA) in individuals (recruited during a routine health check-up at a

general practitioner), with numbers rising with age and in patients positive for *Helicobacter pylori*, but no gender differences.¹⁰

Although rheumatic fever is known to be a primary cause of mitral stenosis, it is becoming less common in developed countries. This decline can be linked to the increased use of penicillin as a primary and secondary prophylactic antibiotic, as well as improved living and sanitation conditions. As a result, the prevalence of group A *Streptococcus* infections has decreased.¹¹ Women are more susceptible to Rheumatic Fever. It is caused by an autoimmune reaction that occurs after a pharyngeal infection with *Streptococcus* group bacteria. Mitral valve leaflets with widespread thickening and chordae tendineae fusions are the most damaged structure in the heart.¹²⁻¹⁴ Studies on related aspects of this case were reviewed¹⁵⁻²⁰.

Informed consent: Before taking this case, information was given to the patient and informed consent was obtained from patient as well as relatives.

Conclusion:

Rheumatic heart valve disease is a complication of rheumatic fever and is caused by an abnormal immune response to streptococcal pharyngitis, which results in valvular damage. AIG is a stomach inflammatory disease that leads to mucosal atrophy and eventually death. In this case patient have Rheumatic valvular heart disease and autoimmune gastritis after taking treatment patient condition was improved.

Conflict of Interest: No conflict of Interest

Funding: Datta Meghe Institute of Medical Sciences, Sawangi Meghe Wardha.

References:

1. Guilherme L, Kalil J. Rheumatic fever and rheumatic heart disease: cellular mechanisms leading autoimmune reactivity and disease. *Journal of clinical immunology*. 2010 Jan;30(1):17-23.
2. Arvind B, Ramakrishnan S. Rheumatic fever and rheumatic heart disease in children. *The Indian Journal of Pediatrics*. 2020 Apr;87(4):305-11.
3. Guilherme L, Ramasawmy R, Kalil J. Rheumatic fever and rheumatic heart disease: genetics and pathogenesis. *Scandinavian journal of immunology*. 2007 Aug;66(2-3):199-207.
4. Kulnigg-Dabsch S. Autoimmune gastritis. *Wiener Medizinische Wochenschrift*. 2016 Oct;166(13):424-30.
5. Lenti MV, Rugge M, Lahner E, Miceli E, Toh BH, Genta RM, De Block C, Hershko C, Di Sabatino A. Autoimmune gastritis. *Nature Reviews Disease Primers*. 2020 Jul 9;6(1):1-9.
6. Conti L, Annibale B, Lahner E. Autoimmune gastritis and gastric microbiota. *Microorganisms*. 2020 Nov;8(11):1827.

7. Guilherme L, Cunha-Neto E, Coelho V, Snitcowsky R, Pomerantzeff PM, Assis RV, Pedra F, Neumann J, Goldberg A, Patarroyo ME, Pileggi F. Human heart-infiltrating T-cell clones from rheumatic heart disease patients recognize both streptococcal and cardiac proteins. *Circulation*. 1995 Aug 1;92(3):415-20.
8. Jose VJ, Gomathi M. Declining prevalence of rheumatic heart disease in rural schoolchildren in India: 2001-2002. *Indian heart journal*. 2003 Mar 1;55(2):158-60.
9. Furuta T, Baba S, Yamade M, Uotani T, Kagami T, Suzuki T, Tani S, Hamaya Y, Iwaizumi M, Osawa S, Sugimoto K. High incidence of autoimmune gastritis in patients misdiagnosed with two or more failures of *H. pylori* eradication. *Alimentary pharmacology & therapeutics*. 2018 Aug;48(3):370-7.
10. Ben Slama S, Ben Ghachem D, Dhaoui A, Ben Rejeb S, Jomni MT, Dougui MH, Bellil K. Autoimmune gastritis: assessment of OLGA and OLGIM staging systems. *Tunis Med*. 2017 Apr;95(4):262-267. PMID: 29492930
11. Zhang Y, Weck MN, Schöttker B, Rothenbacher D, Brenner H. Gastric parietal cell antibodies, *Helicobacter pylori* infection, and chronic atrophic gastritis: evidence from a large population-based study in Germany. *Cancer Epidemiology and Prevention Biomarkers*. 2013 May 1;22(5):821-6.
12. Carapetis JR, Beaton A, Cunningham MW, Guilherme L, Karthikeyan G, Mayosi BM, Sable C, Steer A, Wilson N, Wyber R, Zühlke L. Acute rheumatic fever and rheumatic heart disease. *Nature reviews Disease primers*. 2016 Jan 14;2(1):1-24.
13. Leal MT, Passos LS, Guarçoni FV, Aguiar JM, Silva RB, Paula TM, Santos RF, Nassif MC, Gomes NF, Tan TC, Nunes MC. Rheumatic heart disease in the modern era: recent developments and current challenges. *Revista da Sociedade Brasileira de Medicina Tropical*. 2019 Mar 14;52.
14. Martin WJ, Steer AC, Smeesters PR, Keeble J, Inouye M, Carapetis J, Wicks IP. Post-infectious group A streptococcal autoimmune syndromes and the heart. *Autoimmunity reviews*. 2015 Aug 1;14(8):710-25.
15. Thakare, P., Ankar, R., Wavare, S., Patil, M., 2020. Ischemic heart disease: Case report. *Indian Journal of Forensic Medicine and Toxicology* 14, 6618–6622. <https://doi.org/10.37506/ijfmt.v14i4.12649>
16. Varma, A., Sharma, V., Damke, S., Meshram, R.J., Kher, A., Vagha, J., 2020d. Clinical Presentation of cyanotic congenital heart diseases in the pediatric population. *Journal of Datta Meghe Institute of Medical Sciences University* 15, 7–11. https://doi.org/10.4103/jdmimsu.jdmimsu_74_18
17. Chiwhane, A., Burchundi, S., Manakshe, G., Kulkarni, H., 2020b. Incremental prognostic value of anemia in acute coronary syndrome from a rural hospital in India. *Global Heart* 15. <https://doi.org/10.5334/GH.527>
18. Khan, I.A.M., Patwardhan, A., 2020. Early complications in patients undergoing mitral valve replacement surgery: An observational study. *Journal of Datta Meghe Institute of Medical Sciences University* 15, 454–461. https://doi.org/10.4103/jdmimsu.jdmimsu_7_17

19. Rinait, A., Yashwant Lamture, R., Prateek, P., Gode, D., 2020c. Study of location and staging of tumours in patients of gastric carcinoma at a tertiary hospital. *International Journal of Research in Pharmaceutical Sciences* 11, 4499–4502. <https://doi.org/10.26452/ijrps.v11i3.2677>
20. Ghungrud, D., Tembhare, V., Sakharkar, S., Patil, M., 2020b. Gastric outlet obstruction: A case report. *Indian Journal of Forensic Medicine and Toxicology* 14, 6611–6614. <https://doi.org/10.37506/ijfmt.v14i4.12647>.