

## A Typical Report on Rheumatic Heart Disease

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### ABSTRACT

The heart is made up of four chambers that blood travels through and is pumped out to the entire body. The chambers are separated by valves that open and close to allow blood to collect and then flow through to the next chamber of the heart. Inflammation of the heart valves can permanently damage them and cause rheumatic heart disease. Rheumatic heart disease is when the mitral or aortic valve becomes damaged. Initially, this causes the valves to leak when they should be closed. Over time, if they continue to be damaged, it can cause stenosis, or narrowing, of the valve and the leaking becomes worse. When the heart valves are damaged, it makes the heart have to work harder in an effort to pump enough blood to the rest of the body. Over time, this can lead to heart failure. In the present case, the patient of age 24 years male was admitted in the general medicine ward with the chief complaints of slurring speech and decreased activity since 15 days. He also have develop the slowness of speech i.e.(decreased rate, volume, tone). His past medical history shown that, he had a double value replacement surgery 6 years back and took medications for 3 months. His INR ratio was found to be 1.4 sec and ESR – 20mm/hr. As per the bedside language assessment test found that he is suffering from Brocas aphasia. The treatment includes anticoagulants, diuretics, antiplatelets, analgesics; anticonvulsants are given to get a symptomatic relief.

### KEYWORDS

Anticoagulants, Brocas aphasia, Double value replacement, Slurring speech

### Abbreviations

RHD	-	Rheumatic Heart Disease
ARF	-	Acute Rheumatic Fever
severe MR	-	severe Mitral valve Regurgitation
severe AR	-	severe Aortic Regurgitation.

### INTRODUCTION

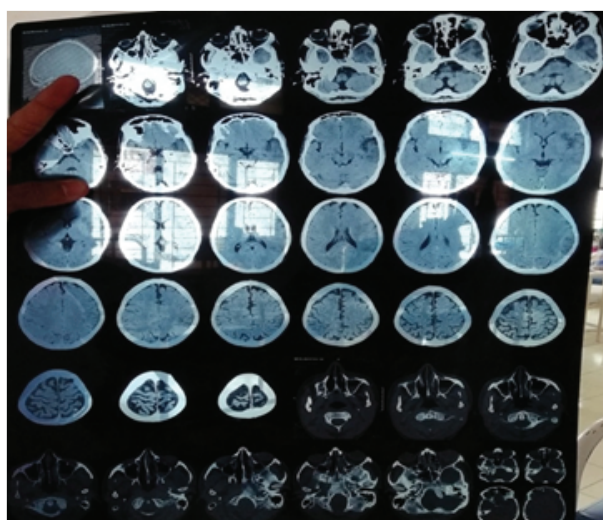
Rheumatic heart disease is a systemic immune process that is Sequelae to a beta- hemolytic streptococcal infection of the pharynx [1]. It is a sequel of acute rheumatic fever, which is which is usually a disease of poverty associated with overcrowding, poor sanitation, other social determinants of poor health [6]. It is the result of valvular damage caused by an abnormal immune response to group A streptococcus infection [3]. It is one of the common heart diseases. RHD is a chronic heart condition caused by rheumatic fever that can be prevented and controlled [2]. Rheumatic fever is still a leading cause of heart disease and, consequently [4]. Rheumatic fever is caused by a preceding group of A streptococcal infection. Autoimmune disease triggered by streptococcus pyogenes [5]. Streptococcus pyogenes bacteria the trigger for episodes of acute rheumatic fever (ARF). It is caused by an episode or recurrent episodes of ARF, where the heart has become inflamed. The normal blood flow is interrupted through damaged valves and the heart valves may be stretched and/or scarred, stretched valves that do not close properly and may cause backward blood flow, or scarred valves may not opening properly due to blockage. It affects functionality of heart

valves [2]. Risk factors includes age, sex, family history [2], genetics, malnutrition, poverty [5], streptococcus bacteria, environmental conditions such as unclean water, overcrowding and low level of education of mothers increased risk of RHD and improper sanitation are some of the risk factors [2]. Potential symptoms and signs of acute rheumatic failure are classified into two categories include major and minor symptoms. Major signs and symptoms are associated with acute rheumatic failure and include carditis (swelling of the heart), arthritis (pain, redness and swelling of one or more joints), Sydenham's chorea (strange movement that occur in the body or face), erythema marginatum (skin pigmentation which is painless), subcutaneous nodules (small lump under the skin). Minor signs and symptoms are used to help support the diagnosis. These include fever, arthralgia (generalized joint aches) [2]. Aside from a subset of children in whom rheumatic fever leads to carditis and early RHD, RHD is usually clinically silent (latent) until it manifests during adulthood. Most individuals were 15-49 years of age, and fewer one half recalled a history of RF. Heart failure, pulmonary hypertension, atrial fibrillation [2] and Infection of the valves [4] were the most frequent medical complications [3].

## CASE REPORT

A male patient of age 24 years was admitted in general medicine department of AMC ward with chief complaints of slurring of speech decreased activity since 16 days. History of consumption of alcohol from one year. 15 days back he had an argument with his co workers, after that incident, he was not able to talk for 6 hours but after some time he developed slowness of speech which was lasting till the admission in the hospital. Based on the previous history, the patient had double valve replacement surgery 6 years back and RHD positive and took medication for 3 months. Patient has no hypertension and diabetes. On examination of personal history the patient had normal sleep, bowel, bladder profiles and appetite and general examination shown no abnormalities (pulse rate -74 bpm, blood pressure -110/70 mmHg, temperature -102 F, Spo2 -97% with room temperature). The CT scan of brain was shown that -Large hypodensa area involving both grey and white matter is noted in left fronto-temporo parietal lobe with attachment of over laying sulci, large acute/subacute infract, mild bilateral frontal, maxillary, ethmoidal and sphenoidal sinusitis.

The patient also had a bedside language assessment, based on this test it was found that the patient is suffering from brocas aphasia. The laboratory values are blood urea 34 mg/dl, serum creatinine 0.88 mg/dl, serum uric acid 6.1 mg/dl, serum calcium 9.6 mg/dl, hemoglobin 14.2 gm/dl, and TWBC 7400/cmm. The therapy followed for the patient was injection Levipil 500 mg in 100 ml normal saline IV twice a day, Injection optineuron 1 ample in normal saline IV once



**Figure 1:** CT scan of brain showing broca's aphasia

a day, Injection Lupinox 0.4cc subcutaneous twice a day, injection Piptaz 4.5 gm in 100 ml normal saline IV trice a day, injection Febrinil 75 mg once daily in the morning, tablet Storvas 40 mg at night time, tablet Actrom 2 mg once daily during night time, injection Mannitol 100 ml trice a day, tablet Dytor plus at morning time, Injection Paracetamol 1 gm IV twice daily, IV fluids 100 ml normal saline and RL 100 ml/hr.

## DISCUSSION

In present case study, the patient was admitted with slurring speech, decreased activity since 16 days. Previously at the age of 15 years he was diagnosed as Marfans syndrome sever MR, sever AR, rheumatic heart disease. He was undergone a double value replacement surgery. After the surgery, the doctors suggested to continue the medication for at least 8 months i.e. Tab.Lasix 40 mg twice a day, Tab.Ramipril 5 mg once a day and Tab.Acitrom 2 mg once a day. But the patient had neglected the medication and took only for 3 months and discontinued. Tab.Ramipril which is an angiotensin converting enzyme inhibitor, used for the patients who suffered from heart problems, to improve their condition. It lowers blood pressure and increase the oxygen supply, blood supply to the heart. Tab.Acitrom (acenocoumarol) which is an anticoagulant used in the treatment and prevention of abnormal blood clots. Acenocoumarol does not dissolve the blood clots that has already formed but may prevent it from becoming larger and leading to more serious problems. Based on the bedside language assessment test, it was found that the patient is suffering from broca's aphasia. The most common cause of Broca's aphasia is a stroke involving the dominant inferior frontal lobe or Broca's area. A stroke in Broca's area is usually due to thrombus or emboli in the middle cerebellar artery or internal carotid artery. Various pathways connect Broca's area to the frontal lobe, basal ganglia, cerebellum and contralateral hemisphere. As a result of a lesion in Broca's area, there is a breakdown between one's thoughts and one's language abilities [7]. Maybe due to the discontinuation of anticoagulant, it leads to the development of clot in the brain which further complicated as aphasia condition in the patient. Due to broca's aphasia, the patient speech was markedly diminished and there was a loss of normal grammatical structure. The patient had also experienced interjectional speech where there was a long latency and the words that are expressed are produced as if under pressure.

## CONCLUSION

Rheumatic heart disease is autoimmune disease triggered by streptococcus and also likely inherited in a multifactorial manner, which is caused by multiple genes interacting with each other and with environmental factors. If left untreated it may leads to sever complications such as heart failure. Due to non adherent medication also leads to severe complications in cardiac diseases because of insufficient blood supply to the brain leads to the formation of clots in brain and damages the brain cells.

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