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Case report on Infective endocarditis with supravalvular aortic stenosis

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Abstract:

Introduction: The most common type of aortic stenosis is supravalvular stenosis. A congenital obstruction of the left ventricular outflow system is the most unusual type of congenital blockage. It's possible that it's related to Williams syndrome or that it's a completely other condition. Despite the fact that Infectious endocarditis is very common in people who have valvular aortic stenosis. Infective endocarditis occurs in patients with supravalvular aortic stenosis is infrequent. A instance of infective endarteritis is described. caused by resistant enterococci in a Supravalvular aortic stenosis patient and a protracted fever. The infection was treated with antibiotics based on the results of a blood culture. **Presenting complaint and investigation:-** A 18 year female patient was admitted in A.V.B.R. Hospital Sawangi (m) Wardha , patient chief complaint was chest pain since 2 days , headache since 2 days , dizziness since 2 days ,also the vomiting and dyspnoea are present in patient, investigation done-History collection, Physical examination, Echocardiogram, Chest X ray, CT scan, MRI. **The main diagnosis Therapeutic intervention Outcomes:** A 18 years female was admitted in A. V. B. R.H. Sawangi (M) Wardha. Patient chief complaint infective endocarditis with CHD (congenital heart disease) patient was appropriately alight till 2 days back off which she started developing chest pain Which was insidious . Patient chief complaint of chest pain, headache, and dizziness since for 2 days. And breathlessness .The main diagnosis:18 year female patient admitted in hospital. All investigation are done and patient diagnosis that having infective endocarditis with supravalvular aortic stenosis, intervention: inj ceftriaxone- 1GM-BD, inj. Vancomycin-100mg-QID, inj. Gentamycin - 80mg-OD, inj. Pan-40mg-OD, inj. Emset -4 mg-TDS, inj. Neomol-SOS, Tab. Nimodipine -60mg-4hourly, Syp. Duphalac- 15ml- BD, Tab. Oroffer XT-OD, After the given medication patient chief complaint is chest pain is relieved, level of headache is decreased. **Nursing perspective:** Fluid was provided to maintain the fluid and electrolyte monitor. And the medication like antibiotics to reduced the infection. Also antiemetic drug are given to patient, also the painkillers drugs provided. **Conclusion:-**A rare but potentially curable cardiac cause of PUO is infective endocarditis aggravating supravalvular aortic stenosis.

Keywords: supravalvular aortic stenosis, endocarditis

Introduction:-

The most prevalent type of a congenital blockage of the outflow from the left ventricle system is supravalvular aortic stenosis. It could be a distinct anomaly or associated to Williams syndrome [1, 2, 3]. Despite the fact that infective endocarditis is a prevalent complication of valvular aortic stenosis, it is an unusual clinical state in supravalvular aortic stenosis. Vegetation throughout the ascending aorta Supravalvular aortic stenosis is a type of aortic stenosis that occurs when there are no valves in the aortic arch with infective endocarditis. She was cured with proper antibiotics administration. Aortic In both children and adults, stenosis is the most prevalent cause of a blockage in the left ventricle's outflow tract;[1] sub valvular and supravalvular disease are less common causes. The clinical aspects, diagnosis, and evaluation of valvular aortic stenosis will be discussed in this topic. Endocarditis is the inflammation of the myocardium's endocardial surface. Infective endocarditis is the most widely recognised cause in veterinary patients (IE)[2]. When an infectious agent, usually a bacteria, infects the This happens on the endocardial surface of the myocardium. Endocarditis is an inflammatory illness that affects the endocardial surface of the heart. This includes cardiac valves, mural endocardium (the endocardium that covers prosthetic valves, pacemaker/defibrillator leads, and catheters), and prosthetic valve endocardium. Endocarditis can be caused by both infectious and non-infectious sources.[3] A bacterial or fungal infection is usually to blame for the irritation. Infectious endocarditis (IE) is a serious condition that affects the heart. whose prevalence has not diminished despite preventative efforts. The death rate is quite high. More than a third of those diagnosed die within a year of finding out they have cancer. The location of infection, the manner of acquisition, the degree of infection, and the presence of recurrence are all factors to consider when defining IE. Supravalvular aortic stenosis (SVAS) is a type of stenosis that affects the aortic valve.[4]

Patient information:-

Patient specific information: A 18 years female was admitted in A. V. B. R.H. Sawangi (M) Wardha. Patient chief complaint infective endocarditis with CHD (congenital heart disease) patient was appropriately alight till 2 days back off which she started developing chest pain Which was insidious . Patient chief complaint of chest pain, headache, and dizziness since for 2 days. And breathlessness .

Primary concerns and symptoms of the patients: present case admitted in AVBRH on dated 10/07/2021 with chief complaints of infective endocarditis with CHD (congenital heart disease) patient was appropriately alight till 2 days back off which she started developing chest pain Which was insidious . Patient chief complaint of chest pain, headache, and dizziness since for 2 days. And breathlessness at the time of reporting.

Medical and surgical history, psychosocial history:- 18 years female patient having no any past medical like diabetes mellitus, hypertension and surgical history like any tracheostomy etc., she was mentally stable ,conscious and oriented to date, time, place. She had maintained good relationship with doctors and nurses. No any family members are suffer like disease condition in patient family , also the patient not any bad habits like tobacco chewing , drinking alcohol etc.

Relevant past intervention with outcomes: Present case had bad medical history .the patient was admitted in private hospital with the chief complaints of chest pain, breathlessness, weakness. That time general condition was poor.

Clinical finding:- 18 years female patient have unhealthy, she was conscious and oriented to date ,time and place patient body build was moderate and she was not maintain good personal hygiene, her haemoglobin was 12gm,pulserate is 68,blood pressure-120/90mmhg.

Timeline: Patient was admitted in A. V. B. R.H. Sawangi (M) Wardha. Patient chief complaint infective endocarditis with CHD (congenital heart disease) patient was appropriately alight till 2 days back off which she started developing chest pain Which was insidious . Patient chief complaint of chest pain, headache, and dizziness since for 2 days, breathlessness . That time patient general condition was poor.

Diagnostic assessment: on the basis patient history and Physical examination**,** History taking**,** Blood test**,** ECG**,** Echogram ,blood sugar was normal ,haemoglobin level was normal, urea serum is slightly decrease, blood pressure was normal, ECG finding is abnormal.

Epidemiology: Calcific aortic sclerosis affects about 1% to 2% of people aged 65 and over, and 29% of those aged 65 and up. Severe aortic stenosis affects between 2% to 9% of persons over the age of 75. Aortic sclerosis affects 9 to 45 percent of persons between the ages of 54 and 81, and the prevalence rises with age. Aortic stenosis is more common in persons with tri-leaflet valves than in those with congenitally defective valves as they get older. Aortic stenosis has different causes depending on where you live, with calcific stenosis being more frequent in North America and Europe and rheumatic valve disease being more common in underdeveloped countries. The number is anticipated to double or triple in the next years.

Therapeutic intervention:

Present case took the medical management with the patient All investigation are done and patient diagnosis that having infective endocarditis with supravalvular aortic stenosis**,** intervention: inj ceftriaxone- 1GM-BD**,** inj. Vancomycin-100mg-QID, inj. Gentamycin - 80mg-OD**,** inj. Pan-40mg-OD**,** inj. Emset -4 mg-TDS**,** inj. Neomol-SOS**,** Tab. Nimodipine -60mg-4hourly, Syp. Duphalac- 15ml- BD**,** Tab. Orofer XT-OD, After the given medication patient chief complaint is chest pain is relieved, level of headache is decreased.

Nursing perspective:

Fluid was provided to maintain the fluid and electrolyte monitor. And the medication like antibiotics to reduce the infection. Also antiemetic drug are given to patient. Also the painkillers drugs provided. Daily monitoring and daily changing the position of patients is prevents bedsores. The purpose of the study was to gather information about nurses' experiences caring for terminally ill and dying patients outside of specialised palliative care facilities. In tape-recorded qualitative interviews, nine nurses from primary home care, community care, and hospitals took part. The interviews revealed three common structures, according to phenomenological research: ambition and dedication, everyday encounters, and satisfaction/dissatisfaction. The structure of "daily contacts" produced the following primary constituents: responsibility, cooperation, experience and knowledge, sentiments, and time and resources.[5]

Follow up and outcome:

In most situations, infective endocarditis can be treated successfully, although it is vital to monitor the condition. Transthoracic echocardiography should be included in the short-term follow-up. Patients who use illicit injectable drugs may be referred to a rehabilitation facility.

Kirklin1 of the Mayo Clinic used a teardrop-shaped patch to accomplish the first surgical repair of the aortic root for congenital discrete supravalvular aortic stenosis (SAS) in 1956, which was thereafter reported by multiple other organisations. Shumacker and Mandelbaum5 and Mc. Goon at the Mayo Clinic in 1964 treated patients with the diffuse form of SAS with an extended patch into the entire ascending aorta. The application of a pantaloon-shaped patch for discrete SAS reduction was described by Doty, Polansky, and Jenson6 in 1977. Despite the fact that the early and intermediate results of the teardrop-shaped and pantaloon-shaped patch techniques for discrete SAS reduction have been debatable.

Discussion:

Supravalvular AS is a kind of aortic stenosis, least common of the three congenital AS types. In 30–50 percent of instances, it's linked to Williams syndrome. About 20% of cases are familial but without Williams syndrome signs, and the rest (about half of all patients) appear to be sporadic 1, 2, 3. Williams syndrome is linked to a microdeletion in the 7q11.23 chromosome region, which contains the elastin gene. [6] According to accounts, a microdeletion of the elastin gene causes Williams syndrome's distinctive vasculopathy. Aortic stenosis is divided into two types: supravalvular aortic stenosis (SVAS) and pulmonary artery stenosis (PAS). Williams syndrome had no indications or symptoms in our index patient, and no family members were affected, therefore it was classed as sporadic. Despite the fact that the literature considers supravalvular AS to be a risk factor for IE in general, there is just one case report describing intractable endocarditis in a patient with supravalvular AS. In such case, there was additional intracardiac vegetation and involvement of the mitral and aortic valves. There were no other intracardiac structures involved in our index case, which only had vegetation in the ascending aorta.[7] Due to supravalvular constriction caused by turbulent jet, he appeared to be susceptible to infective endarteritis. It's a rare but treatable illness. Some species that are resistant to the drugs that cause IE may not respond to empirical antibiotics, even if they respond to other antibiotics. Multiple blood cultures combined with culture-directed antibiotic therapy could save a life, just as they did in our index case. Infectious endocarditis (IE) is an infection of the inner lining (endocardium) of the heart muscle caused by bacteria, fungi, or germs in the bloodstream. Patients with abnormal (leaky or narrow) heart valves, artificial (prosthetic) heart valves, or pacemaker leads are at a higher risk of developing diabetes. Few of the related studies were reviewed [8-13]. A person's risk of acquiring IE is increased if they have a structural heart problem. Rheumatic fever was once the leading cause of IE, and it is still a prevalent tendency in developing nations. The chief symptoms include a low-grade persistent temperature with no apparent cause, tiredness, and shortness of breath when exerted. Patients may also feel pain in their joints and muscles.

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

Conclusion:

A rare but potentially curable cardiac cause of PUO is infective endocarditis aggravating supravalvular aortic stenosis. Heart failure, persistent arrhythmias, and infective endocarditis are all risks for adults with supravalvular aortic stenosis.

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