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RESEARCH ARTICLE

INFECTIOUSENDOCARDITISWITHSUBAORTICDIAPHARAGMA IN A PATIENT WITH COARCTATION OF THE AORTA

O. Hdioud, F. Fikrat, H. Ouartassi, K. Berrag, N. Doghmi and M. Cherti
Departement of Cardiologie B., Rabat.

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Abstract

Introduction:-

Infectiveendocarditisisconsidered a potentiallyserious condition despite all the advances in diagnosis and treatment. The valves of the leftheart are more affected and in two times out of three, the valves are alreadydiseased. The germscolonizethemwhentheypassinto the bloodstream, via a detectable entry point. Veryoften, the latter isbuccopharyngeal, on the occasion of unperformed dental care.Vegetationsmay lead to valve insufficiency or obstruction, myocardialabscess or mycoticaneurysm. Diagnosisrequiresdemonstration of microorganisms in the blood and usuallyechocardiography. Treatmentinvolvesprolongedantimicrobialdrugs and sometimessurgery.(1)

Case Report

We report the case of a 19 yearoldyoung man, followed for an aorticnarrowing on a subaorticdiaphragmassociatedwith a coarctation of the aortasince 2017 but whodid not undergosurgery due to lack of means. The interrogation did not revealanyotherhistory or toxic habits.

The evolutionwasmarked by the persistence of a dyspneawith an alteration of the general state of the patient, hewasadmitted in a table of push of global cardiacinsufficiencywith an extremecachexia. The clinicalexaminationfound a cachexic patient, a BP at 138/96 mm hg and a T° at 37.2 and a saturation at 90%. Cardiac auscultation revealed a 4/6 systolicmurmurat the aortic focus and pulmonaryexaminationrevealedbilateralcrepitusrales.The oral and dental condition wasveryaltered, the osteoarticular and cutaneo-mucosalexaminationwaswithout anomalies.

Theelectrocardiogramshowed a sinus tachycardiaat 106 bpmwith LVH and LBBB.

The transthoracicechographyshowed 2 vegetations: one on the ventricularside of the aortic valve (15x12 mm) and one on the atrial side of the mitral valve (11*12 mm), and a moderateaorticleak (grade II). The aortic constriction wastightwith a Vmax of 4.2 m/s and a gradient of 48 mm hg.

The thoracic-abdominal-pelvic CT scan performed as part of the extension workupshowed multiple splenicinfarctsassociatedwith a leftupper polar renalinfarct, hepatomegalywith a medium-sizedintraperitoneal effusion. The brain CT scan revealed a right frontal AVCI in the right anteriorjunctionalterritory. The blood cultures were positive for streptococcus mitis and the patient was put on intravenous dual therapycombininggentamycin and ceftriaxone. The rest of the biologicalwork-up showed a CRP of 28 mg/l and normocyticnormochromicanaemiaat 6.8 g/dl (transfused 2 redbloodcellswith a control haemoglobinat 9 g/dl)

Corresponding Author:- O. Hdioud
Address:- Departement of Cardiologie B., Rabat.

Discussion:-

Infectiveendocarditiscanoccuratanyage. Men are affected 2 times more oftenthanwomen. IV drugusers, immunocompromised patients, and patients withprostheticheart valves and congenitalheartdisease are mostatrisk.Endocarditisusually affects the heart valves. The main predisposingfactors are congenital cardiac malformations, rheumatic valve disease, aorticbicuspidism or calcification of the aortic valve. Valve prostheses and otherintracardiacdevices are particularlyatrisk.Thenest for infection isusually a sterilevegetation of platelets and fibrin, formedwheninjuredendothelialcells release tissue factors.(2)

TEE :- vegetation of the aortic valve**ETT :-** vegetation of the large mitral valve

The subaorticdiaphragmis a pathologicalentitycharacterized by the presence of a semilunar membrane locatedlessthan 1 cm below the aortic valves, inserting onto both the septal wall of the leftventricle and the base or adjacent portion of the ventricular face of the large mitral valve(1). This malformation occurs in approximately 10% of congenitalaorticstenosis cases and is the mostcommonform of subaorticstenosis.

It occurs as an isolatedlesion or in association withadditionalcardiac malformations (ventricular septal defect, patent ductusarteriosus, coarctation of the aorta), whichpresents in childhoodwithsigns of LVOT obstruction (dyspnea, chest pain, syncope, palpitations) and canpotentially lead to life-threatening complications (aorticinsufficiency, infectiveendocarditis.

The subaorticdiaphragmismostoftenresponsible for an upstream impact withconcentricleftventricularhypertrophy by elevatedafterload.Amoderatedegree of aortic valve insufficiencyiscommon in patients withsubaorticstenosis and appears to berelated to valve thickening and alteredcuspmobilitysecondary to trauma created by the jet passing through the subaorticdiaphragm.

Aorticinsufficiencywouldresultfrom a loss of flexibility of the valve due to the sending of spicules from the subaorticdiaphragm. Furthermore, the presence of even minimal aorticinsufficiencyconstitutes a "malaise" in the surgical indication of the moderately or moderatelytightsubaorticdiaphragm. Indeed, the resection of the latterwouldavoid the aggravation of the aorticinsufficiency and the recourse to an eventualaortic valve replacement.

The spontaneousevolutionisusuallytowards a worsening of the gradient, especially in periods of growth.

In addition, the development of cardiomegaly, correlatedwith the index of progressive myocardialdeterioration, mayprogress to leftventricularfailure.thesearch for congenital anomalies at the origin of its constitution isimperativepreoperatively. Theirsurgical correction isnecessarywhenthey are diagnosed in order to avoid possible recurrences.

Sub-aorticdiaphragmwithmuscularization of the large mitral valve

Recentstatistics show that 45% of patients withinfectiveendocarditis are operated on during the acute phase of the disease, before the end of antibiotictherapy. Thechoice of patients to beoperated on and the optimal time for the operation must beguided by the risksinvolved.The main indications are poorhemodynamictolerance, non control of the infectiousprocess, embolisms and voluminousvegetations.The embolicriskisbetterevaluatednowadaysthanks to earlydetection by transthoracicechography. Large and mobile vegetations have an increasedembolicrisk, our patient hadat least 3 differentembolic complications (kidney, spleen, brain).

Perioperativemortality in the most favorable cases (non-abcessiveendocarditis, on native valve) islessthan 20%. The reading of the surgicalseries shows differences in the long-termsurvival rate.

Conclusion:-

Infectiveendocarditisis an infrequent but fatal diseasewithoutproperantibiotictreatment. Prophylaxis of endocarditis has been restricted to high-risk situations (cyanogenicheartdisease, history of endocarditis and valve prosthesis) in case of high-riskprocedures. It iscurrentlyestablishedthat good hygiene, especially oral and skin hygiene, is the most effective way to reduce the incidence of endocarditis.

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