Case study

CORONARO CAMERAL FISTULA : LITERATURE REVIEW, DIAGNOSIS AND MANAGEMENT, ABOUT A CASE

SUMMARY

A coronaryfistulaisdefined as a direct connectionbetween a coronaryartery and a heartchamber, greatvessel, or othervascular structure that "bypasses" the myocardialcapillarybed. This is a rare pathologythatisusually not discovereduntillater in life, and exceptionally not duringchildhood. We report the case of a young patient whowashospitalized for chest pain and shortness of breath and whowasfound to have a coronaryfistula on angiography.

A 66-year-old patient. Hypertension on dual therapy for 16 years and diabetes on OAD(Oral Antidiabetic) for 4 years. He washospitalizedwithtypicalanginapectoris and dyspnea, and the stress test was positive. Laboratoryexaminationrevealed a good general condition with NYHA stage 3 dyspneicanginapectorisextending to the upperextremities and no evidence of heartfailure. Looking at the balance, wesee a slightincrease in troponin. ECG returns to regular sinus rhythm, withelectrical LVH(leftventricularhypertrophy) and ambient negativewaves, no rhythm or conduction abnormalities.Transthoracicechocardiography(TTE) reverses hypertensive heartdiseasewith good global and partial contractilitywithoutsignificantvalvulardiseaseassociatedwithsystolicpulmonaryarterial pressure(SPAP)at 35 mmHg .Coronaryangiographyisperformed and shows evidence of minor involvement of the central CX artery and a coronary camera fistulafrom the first diagonal arterydraininginto the leftventricle.

Management was about optimizingmedical care. The patient received an appointment and wasdeclareddischarged.

Coronary camera fistulae are rare, found in approximately 0.3% of coronaryangiographicstudiesperformed. Most are congenital and mayoccurprimarily due to trauma, erosive infection of the vesselwall, or iatrogenicityduring transluminal coronaryangioplasty, myocardialbiopsy, or valve replacement. In many cases, simple but complexforms can bedescribed. The gold standard for confirming the diagnosisremainscoronaryangiography, which highlights both the affectedarteries and drainage sites. Cardiac scanners occupy an increasingly important position, especially as theyprovidemorphologicallyaccurate information. Surgical or percutaneoustreatment of the fistulawith a coilisrecommended in symptomaticadult patients, especiallythosewithsignificant or complicated right-to-left shunts. The authorssuggesttreatmentwith β-blockerswhen multiple sinusoidalfistulasassociatedwithventricularwallhypertrophy are present. Close monitoring isrecommended for asymptomaticsmallfistula.

Cornealfistulais a rare congenital or acquired condition thatismostlyasymptomatic and discovered in adulthood. Coronaryangiography and heart scan can beused to confirm the diagnosis. Treatmentisusuallysurgical or endovascular. However, in some cases, drugtreatmentwithbeta-blockersmay help.

KEYS WORDS : FISTULAE-CAMERAL CHORD-DIAGONAL ARTERY-LEFT VENTRICULE

INTRODUCTION

A coronaryfistulaisdefined as a direct connectionbetween a coronaryartery and a heartchamber, greatvessel, or othervascular structure that "bypasses" the myocardialcapillarybed. Most are congenital, but maybeacquired in certain circumstances (1, 2). Incidence varies betweenseries, but isestimated to be 0.002% in the general population. This is a rare pathology, usually not discovereduntillater in life, and exceptionally not duringchildhood (3, 4).

We report the case of a young patient whowashospitalized for chest pain and shortness of breath and whowasfound to have a coronaryfistula on angiography.

OBSERVATION

This is the case of a 66-year-old patient whowasfollowed for 16 yearswith double therapy for hypertension and 4 years for diabeteswith ADO and exercise test-positive stress angina and washospitalizedwithtypicalangina and dyspnea. is. Laboratoryexaminationrevealed a good general condition with NYHA stage 3 dyspneicanginapectorisextending to the upperextremities and no evidence of heartfailure. The rest of the physicalexaminationwasunremarkable, PA = 140/70 mmHg, FC 69 BPM(Beat Per Minute). The electrocardiogram(ECG)returned to regular sinus rhythm, withelectrical LVHand ambient negativewaves, and no rhythm or conduction abnormalities (Figure 1).

TTE reverses hypertensive heartdiseasewith good global and partial contractilitywithoutsignificantvalvulardiseaseassociatedwith PAPS at 35 mmHg (Figure 2).

Haemocytometryshowedslightly positive US troponin at 18, HG = 12 g/dl, creatinine = 9.9 mg/l, GFR (Glomerular Filtration Rate) 64 ml/min. Initial treatmentstartedwithaspirin 75 mg/24 hours, statin 40 mg/24 hours, ACE inhibitors and calcium channelblockers, propranolol 50 mg/24 hours, lowmolecularweightheparin (LMWH) 0.8 ml x 2/24 hours.

Coronaryangiographyrevealsinsignificantinvolvement of the middle circumflexartery (approximately 30%) and a coronary camera fistulafrom the first diagonal arterydraininginto the leftventricle (Figure 3).

The patient wasdischarged for treatment. Optimize doses of aspirin, statins, ACE inhibitors, calcium channelblockers, and beta-blockers and antianginals as needed. Shewasseen 1 monthafterdischarge and shewasseen 3 monthslater, reportingmarkedclinicalimprovement (stage II at return visit) with the disappearance of herchest pain and lessshortness of breath.

DISCUSSION

A coronary camera fistulaisdescribed as an abnormalconnectionbetween the coronaryarteries and the heartchambers or vesselsconnected to it. It is rare and found in approximately 0.3% of coronaryangiographyexaminationsperformed (5,6). Most are congenital and mayoccurprimarily due to trauma, erosive infection of the vesselwall, or iatrogenicityduring transluminal coronaryangioplasty, myocardialbiopsy, or valve replacement. In many cases, simple but complexforms can bedescribed. Unlikeour case, the fistula drains primarilyinto the right cavity (7). Drains into the leftcavity. It can occurunilaterally, bilaterally, or multiple times, mostcommonlyfrom the right coronaryartery (40% to 60%), but more rarelyfrom the anteriorventricularartery (30% to 60%). %), and in exceptional cases may arise from the circumflexarteries. , the commontrunkis not reserved (8). . If the low-pressure dietisworking, mostfistulaswill drain into the venous circulation. Right ventriculardrainage ismostcommonlyreported in approximately 41% of cases, regardless of the

arteryinvolved (9). This is in contrast to the present case where drainage likelyoccurs in the leftventricle.

Symptomsdependprimarily on hemodynamiceffects and occurmostfrequently in adults, but exceptionally in children. The majority of patients are asymptomatic, but signssuch as anginapectoris and shortness of breath, mostcommonly suggestive of coronary syndrome, maybetelltalesigns, as was the case in our patient. The mostobviousmechanism for the development of anginapectorisisischemiasecondary to coronary flight. Especiallywith large shunts, other complications such as pulmonaryarterial hypertension, heartfailure, aneurysm dilatation, and arrhythmias can occur (10).

The diagnostic approachmostcommonly leads to the creation of an ECG, which shows signs of congestion, and his ETE/ETO, whichmay show coronaryartery dilatation or Doppler flow disturbances. The gold standard for confirming the diagnosisremainscoronaryangiography, which highlights both the affectedarteries and drainage sites. Cardiac scanners occupy an increasingly important position, especially as theyprovidemorphologicallyaccurate information.

Spontaneousfistulaclosureisveryrarelyobserved and the mechanismispoorlyunderstood. Prognosisclearlydepends on complications.

Surgical or percutaneoustreatment of the fistulawith a coilisrecommended for symptomaticadult patients, especiallythosewithsignificant or complicated right-to-left shunts. Endovascular techniques such as embolizationwithremovableballoons or metalcoils, or occlusion withAmplatsoccluders and plugs are rapidlygaining in popularity, greatlyreducing the need for surgical intervention doing. Theseendovascular techniques are rapidlysuccessful, withreportedsuccess rates as high as 95% in the literature. The main goal of treatmentis to treatfistulas in the distal portion of healthymyocardium to preventblockage of the branches feedingit (11). Presence of large shunts or high-flow fistulas, multiple liaisons, tortuoussides of the fistula canal, presence of multiple ends, or presence of an aneurysm are indications for surgery. The authorssuggesttreatmentwith β-blockerswhen multiple sinusoidalfistulasassociatedwithventricularwallenlargement are present (12). Close monitoring isrecommended for asymptomaticsmallfistulae. In our patient, weopted for optimization of beta-blockertherapy and waiver of surgical or endovasculartreatmentwithregularclinical follow-up and ultrasonography.

CONCLUSION

Corneal camera fistulais a rare congenital or acquiredmedical condition thatismostlyasymptomatic and discovered in adulthood. Coronaryangiography and cardiac CT can beused to confirm the diagnosis. Treatmentisusuallysurgical or endovascular. However, in some cases, drugtreatmentwithbeta-blockersmay help.

ICONOGRAPHY

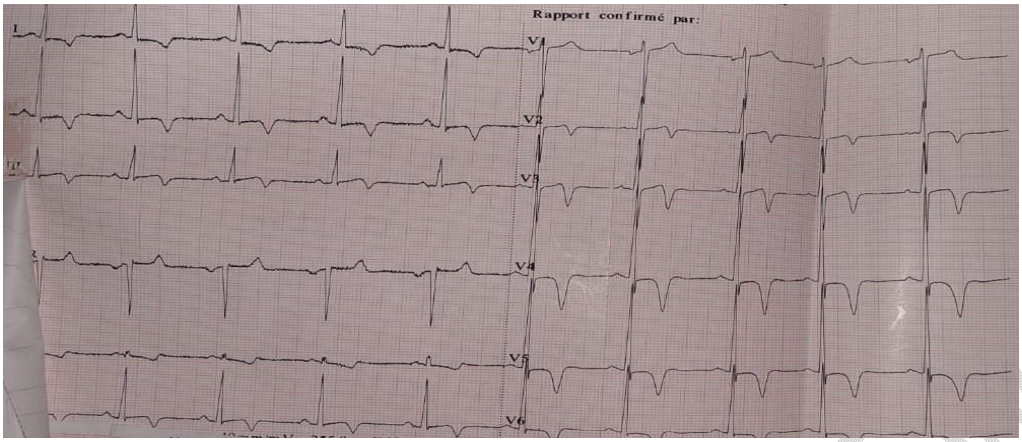

FIGURE 1: ECG image withelectric HVG + negative T-wavescircumferentially

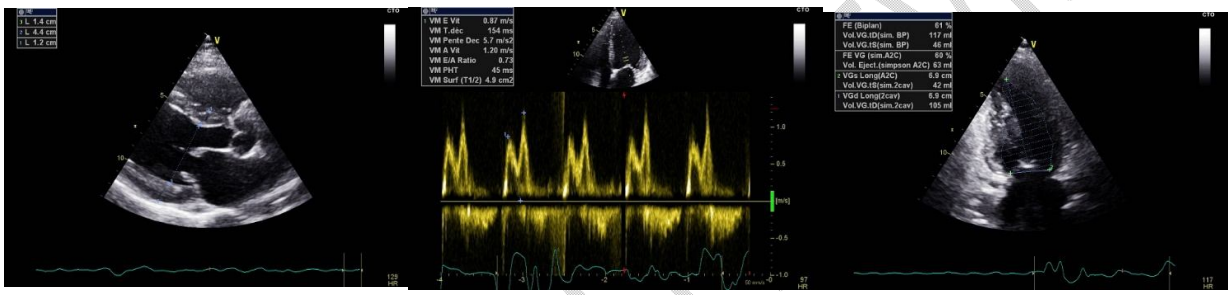

FIGURE 2:TransthoracicEchocardiography images showing hypertensive heartdiseasewith good ventricularfunction

FIGURE 3: Coronaryangiography images showing a dominant right network free of injury, a fistula of the first diagonal and a non-significantlesion of the middle circumflex

Ethicalapproval

Writteninformed consent wasobtainedfrom the patient for the publication of this case report and accompanying images. A copy of the written consent isavailable for review by the editor-in-chief of this journal uponrequest.

ABBREVIATIONS

OAD= Oral Antidiabetic

BPM= Beat per minute

GFR= Glomerular filtration rate

ECG =Electrocardiogram

TTE= Transthoracicechocardiography

TOE= Transesophagealechocardiography

HR= Heart rate

LVH= Leftventricularhypertrophy

LMWH= Low molecularweightheparin

HG= Hemoglobin

ACE=ACE inhibitors

PA= Blood pressure

SPAP= systolicpulmonaryarterial pressure

DECLARATIONS :

Ethics approval and consent to participate

It is not applicable

Consent for publication

In accordance with international and academic standards, written consent for publication was obtained from the patient and retained by the authors.

Availability of data and materials

The datasets supporting this article are included in the article.

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