CASE REPORT

AN IATROGENIC DISSECTION OF THE ABERRANT RIGHT SUBCLAVIAN ARTERY

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INTRODUCTION:

The aberrant right subclavian artery (ARSA) is the most common anomaly of aortic arch, occurring in 0.5 to 2% of individuals. [1] Lusoria comes from the Latin phrase "lusus naturae", meaning "freak of nature", which refers to the anomalous course of the artery.(Fig-1) David bayford was the first one to describe dysphagia caused by an aberrant right subclavian artery, calling the clinical syndrome "Dysphagia lusoria" and the aberrant artery causing it "Arteria lusoria" forming a vascular ring around esophagus and trachea.

The course of aberrant right subclavian artery commonly 80% posterior to esophagus (as in our patient), 15% between esophagus and trachea and 5% anterior to trachea. There is Adachi-William's classification of aberrant right subclavian artery i.e, Type I : 4 branched pattern in the sequence of RCCA, LCCA,LSCA and ARSA, Type II: Similar to Type I but with additional branch left vertebral artery arising in between the origin of LCCA and LSCA, Type III: three branches that is Bicarotid trunk (common trunk of both common carotids), LSCA and ARSA.(Fig-2)

Currently, there are no recommended guidelines on ARSA management. Various management options can be offered if patient is symptomatic that is surgery, percutaneous approach (TEVAR), hybrid approach (TEVAR + Carotid artery to subclavian Bypass). [2,3,4]

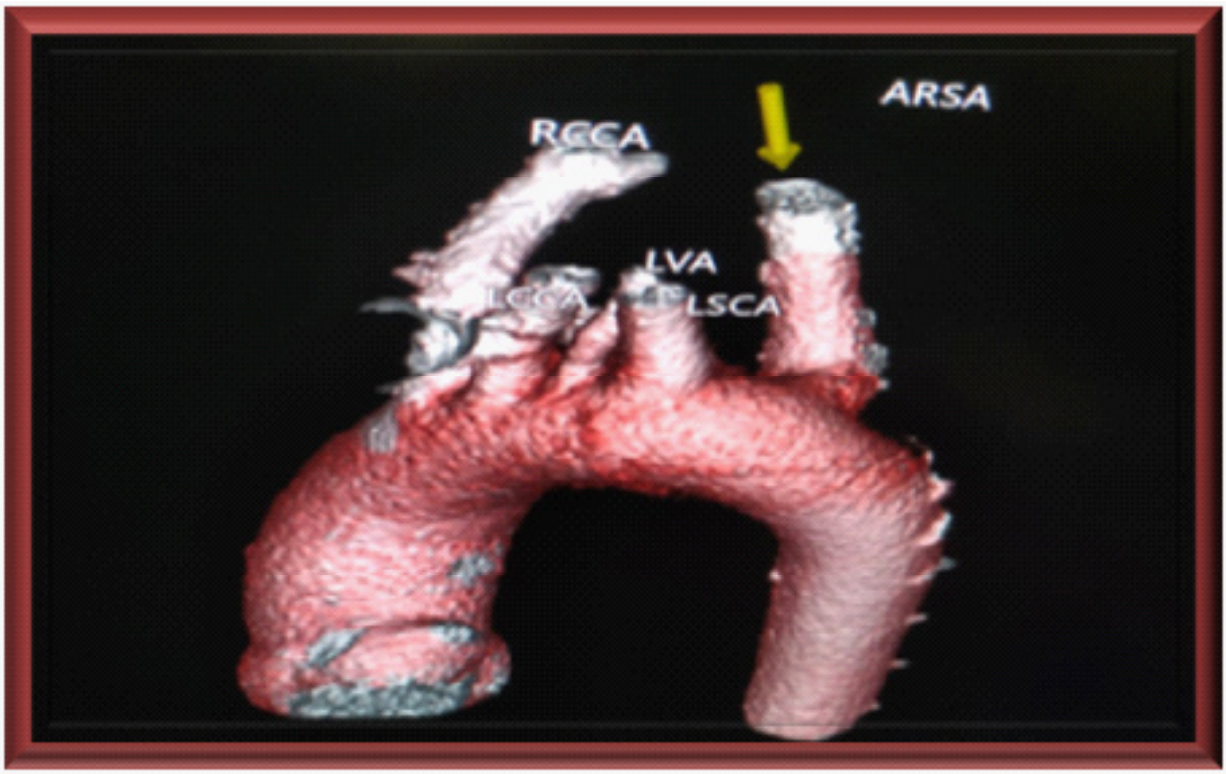

Fig 1. CT angio of aberrant right subclavian artery (3D View)

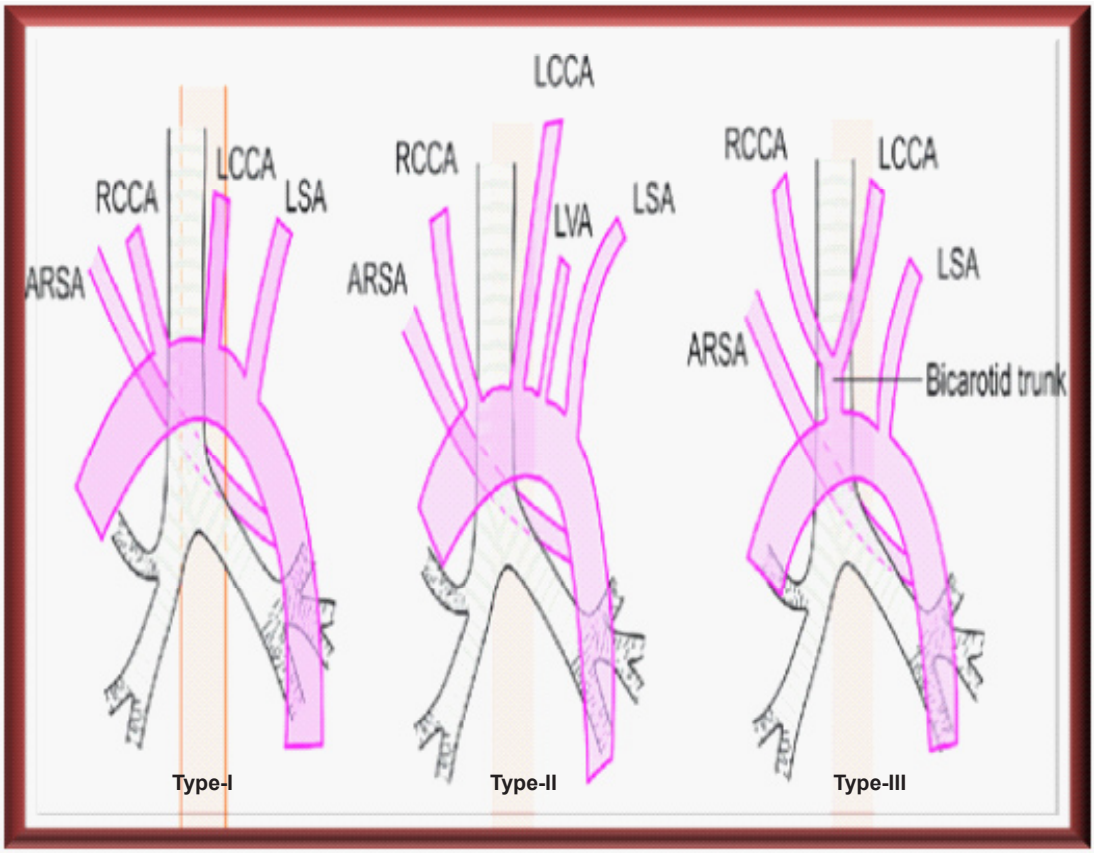

Fig 2. Adachi williams's classification of abeerant Right Subclavian Artery.

CASE REPORT:

We report a 40 years old male, laborer, non-smoker, non-diabetic, non-hypertensive. Admitted for diagnostic coronary angiography at Punjab Institute of Cardiology, Lahore via OPD. He was admitted about a month ago at emergency department and treated as NSTEMI (TIMI score = one) case during that admission and was discharged in stable condition with advice of Coronary angiography on OPD basis. His baseline Investigations were normal and Troponin I was positive and Echocardiography was also normal. ECG is shown in Fig-3.

During coronary angiography, after doing

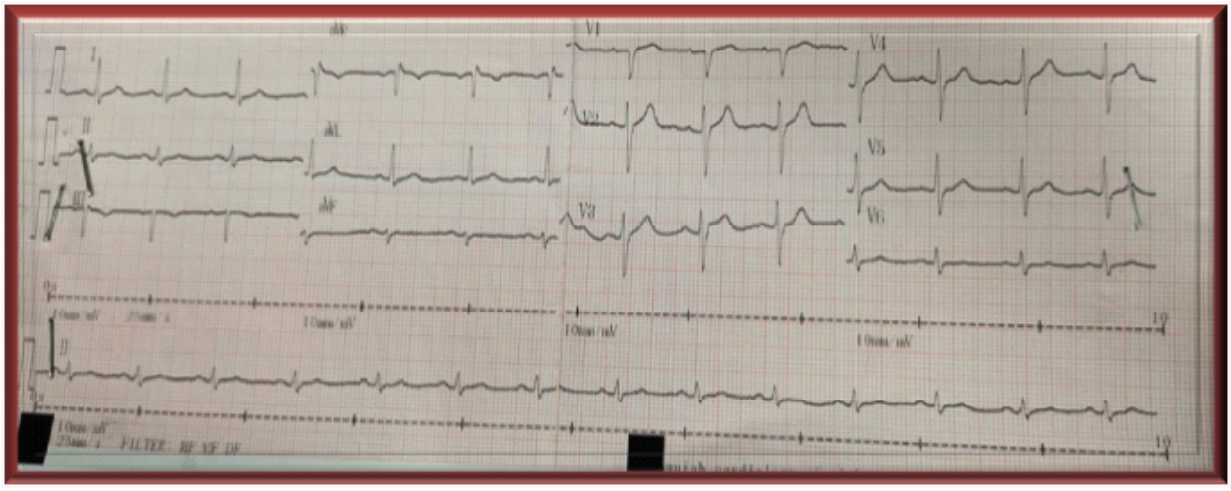

Fig 3. ECG

Fig 4. Figure 2: Coronary Angiography of Left Coronary System

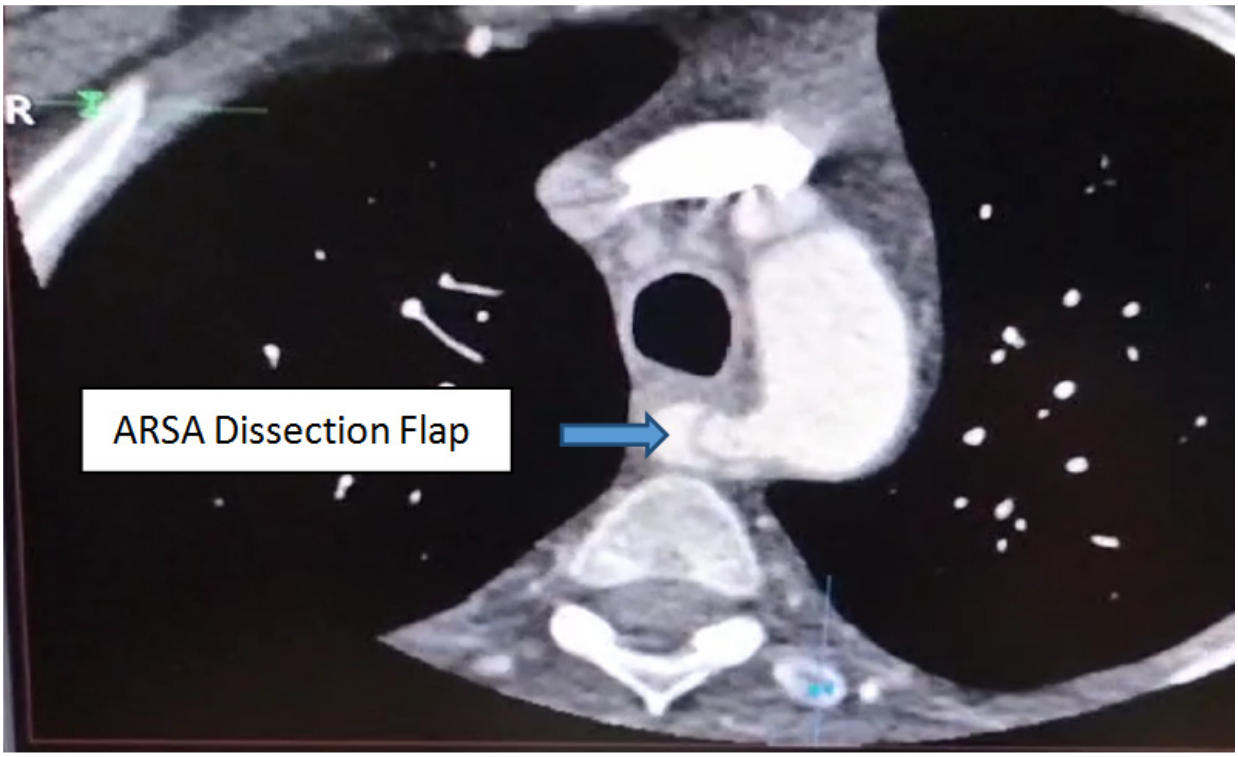

FIG 5. CT angio of aberrant right subclavian an artery (Axial View).

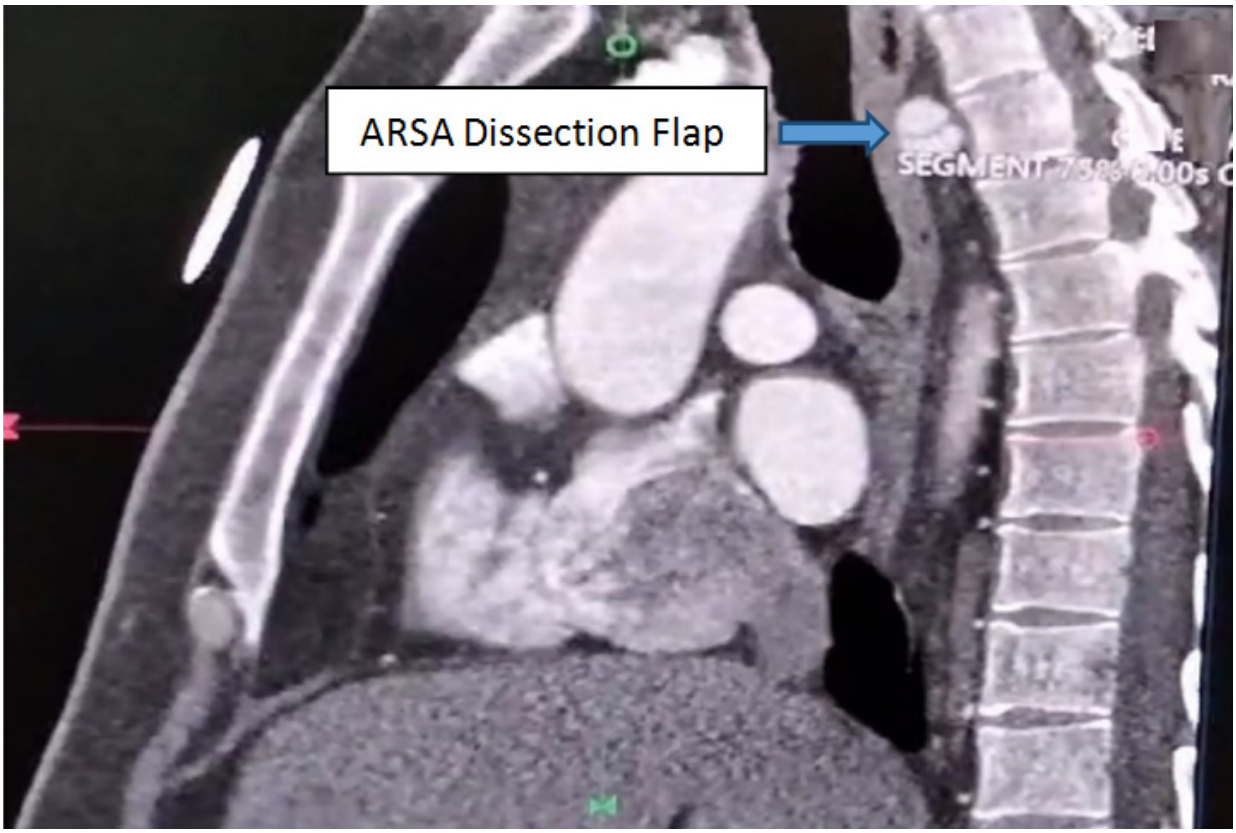

FIG 6. CT ANGIO OF ABERRANT RIGHT SUBCLAVIAN ARTERY (SAGITTAL VIEW)

left coronary system (Fig-4) which was normal, right coronary catheter (JR4.0 5F) could not be advanced through the RSA due to the suspicion of subclavian artery dissection. Therefore, patient was referred for CT angiography to assess dissection and right coronary artery. On CT angiography there is dissection flap at ostio-proximal segment of aberrant right subclavian artery(Fig - 5, 6) and RCA was normal. Patient was stable and managed conservatively.

DISCUSSION:

Subclavain artery dissection is a rare complication and very few cases have been reported yet. Following are the different cases reported the literature including the a case of cathedral induced dissection. (Table)[5]

In majority of cases management is conservative but patient may require surgery or cathedral directed vascular repair. We managed conservatively with good result.

Table. LSAD:Comparison with Previously Reported.

Ref no.	1	6	2	7	8	3	4
age/gender	21/f	36/f	41/m	71/m	54/m	75/f	52/f
side	lt.	lt.	lt.	lt.	lt.	rt.	rt.
Incentive	traumatic	spontaneous	traumatic	spontaneous	spontaneous	traumatic	catheterization
smoking	N/A	N/A	N/A	yes	N/A	N/A	N/A
clinical manifestation	left interscapular pain	left shoulder and neck pain	left shoulder palsy	left facial hypesthesia, left arm ataxia and gait disturbance	left-sided facial numbness, left-sided occipital headache, left-sided neck pain, weakness and pain in his upper limbs	numbness in right arm, pain in the right arm	moderate pain in the right clavicular region
aneurysm	yes	N/A	N/A	none	N/A	N/A	N/A
medical history	chronic thyroiditis	hypertension	none	arteriosclerosis	hypertension	dyslipidemia	angina pectoris
complications (cerebellar infarction)	N/A	N/A	N/A	yes	yes	N/A	N/A
complications (artery occlusion)	none	none	none	vertebral artery	vertebral artery	right subclavian artery, right axillary artery	none
complications (bleeding from SAD)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
blood pressure: left-right difference	yes	none	yes	none	none	yes	N/A
treatment	anticoagulant therapy, blood pressure control →antiplatelet therapy	blood pressure control	vascular IVR, anticoagulant therapy →antiplatelet theapy	antiplatelet therapy, statin therapy	anticoagulant therapy →antiplatelet therapy	surgical treatment	vascular IVR
prognosis	good	good	good	good	good	good	good
progressive SAD	none	none	none	none	none	none	none

CONCLUSION:

Coronary angiogram via right radial access in the presence of anatomical variations of great vessels is particularly challenging, as significant vessel tortuosity and abnormal catheter angulations may be encountered. So in diagnosed cases of aberrant origin of right subclavian artery, left radial or femoral approach should be preferred.

References:

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