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Case Report

Acute thrombosis of left subclavian artery in association with abnormal uterine bleeding: an interesting case report

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ABSTRACT

Subclavian artery thrombosis arises secondary to damage to the intimal layer of the vessel along with occlusion of blood flow. Etiological factors include atherosclerosis, diabetes, hypertension, arteritis, inflammation due to radiation exposure, compression syndromes, fibro muscular dysplasia. The aim of the study is to determine the association between acute thrombosis of left subclavian artery and abnormal uterine bleeding in a perimenopausal woman. Patient usually presents with upper limb claudication and upper extremity pain at rest. Complications: coronary artery disease, transient ischemic attack, cerebrovascular ischemia or infarct. Diagnosis is by duplex ultrasonography, computed tomography angiography and magnetic resonance angiography. Endovascular intervention is the best modality currently available for relieving subclavian artery thrombosis including percutaneous transluminal angioplasty with stenting or ballooning. Uncontrolled diabetes could be the etiological factor of extensive thrombosis in a patient presenting with abnormal uterine bleeding leading to severe anemia. Severe iron-deficiency anemia with thrombocytosis may be a risk factor for thrombus formation.

Keywords: Abnormal uterine bleeding, Cerebrovascular ischemia, Endovascular intervention, Percutaneous transluminal angioplasty

INTRODUCTION

Subclavian artery thrombosis arises secondary to damage to the intimal layer of the vessel along with occlusion of blood flow.[1] This damage can occur as a result of external muscular compression and repetitive stress to the artery or because of atherosclerotic changes to the vessel. This damage can occur as a result of external muscular compression and repetitive stress to the artery or because of atherosclerotic changes to the vessel. Etiological factors include atherosclerosis, diabetes, hypertension, arteritis, inflammation due to radiation exposure, compression syndromes, fibro muscular dysplasia.[2] The left subclavian artery is affected three to four times more frequently than the right side.[3] Pathology includes posterior fossa ischemia (subclavian steal syndrome),upper limb ischemia, or a combination of both.4 The patient presenting with acute subclavian artery occlusion usually has a history of repetitive use of or stress injury to the upper extremity on the affected side. A history of upper-extremity claudication is common. Subclavian artery thrombosis is typically under diagnosed by physicians.

CASE REPORT

47 years, Mrs. X, P3L2 came with complaints of heavy menstrual bleeding for 20 days and history of mild pain and vague numbness in the left hand since one month. Patient gives history of acute palpitation and mild chest pain with easy fatiguability since 2-3 hours. History of newly diagnosed type II diabetes mellitus, started on T. Metformin and T. Glimepride for 3 days. She is not a known case of systemic hypertension. Past history revealed usage of oral contraceptive pills for control of

AUB. She has no history of abortions or no family history of coronary artery disease.

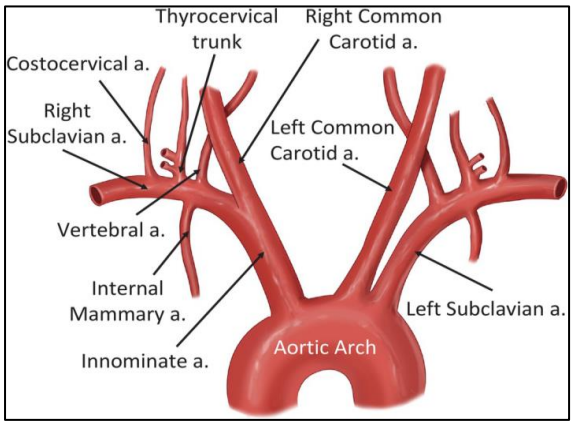

Figure 1: Aortic arch and its branches.

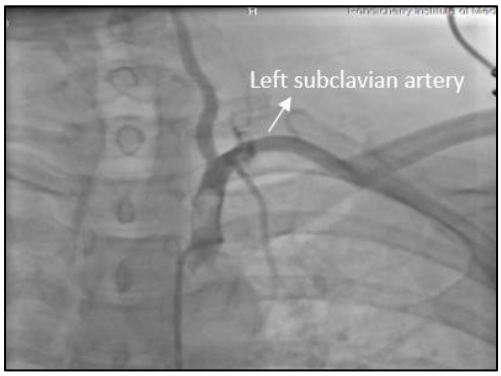

Figure 2: Before stenting.

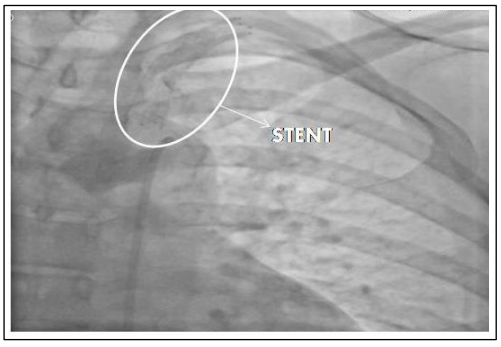

Figure 3: After stenting.

On evaluation, there was mild pallor, pulse rate was 120/min, and BP was 150/90 mm Hg measured in right arm. No features of cardiac failure due to anemia. Gynecological examination was normal except for minimal bleeding per vaginum. She was admitted for evaluation of Abnormal uterine bleeding with severe anemia and 1 unit packed cell was started after taking ECG and ruling out myocardial infarction. Pretransfusion, variation in BP and pulse rate in both arms were noted with feeble pulsation in the left brachial and radial artery. Hence was re-evaluated by physician. Peripheral arterial doppler showed obstruction at left subclavian artery. CTVS opinion was sought. CT peripheral angiography showed a short segment of central hypodense intra luminal filling defect of left subclavian artery –acute subclavian artery thrombosis. There is abrupt cut off of left brachial and distal most portion of ulnar arteries – suggestive of chronic sequelae.

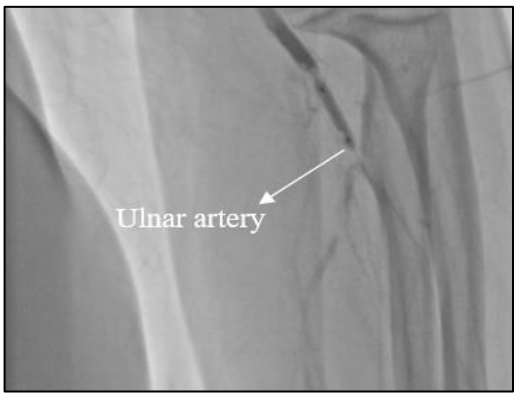

Figure 4: Before dilatation of ulnar artery.

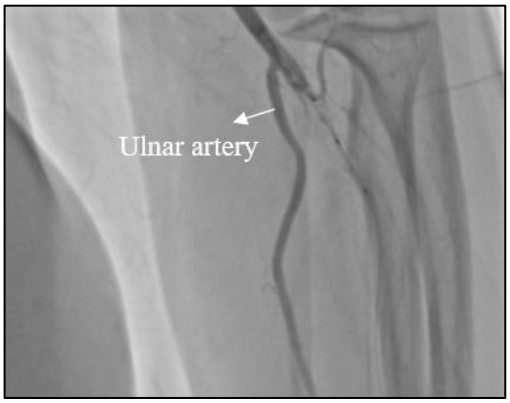

Figure 5: After dilatation of ulnar artery.

She was started on anticoagulants and injection Clexane 0.6 ml SC BD, Proximal subclavian artery stenting was done with 2.0×40 mm Boston scientific Epic stent (self-expanding). In the ulnar artery, multiple balloon dilatation was done with 2.5×15 mm Boston scientific maverick balloon and thrombolysis was done. Strict glycemic control was maintained. Patient discharged on post operative day 4. LNG IUCD insertion was done for control of abnormal uterine bleeding. Patient had no further episodes of bleeding.

DISCUSSION

Subclavian arterial stenosis/occlusion can manifest as vertebro-basilar insufficiency and/or upper limb ischemia.[1] It is typically under diagnosed by physicians and is a rare diagnosis. Left subclavian artery is most commonly affected than the right side (fourfold), the most common cause being atherosclerosis. Incidence is 7-18% in persons with peripheral vascular disease.[2] There is 50%

risk of coronary artery disease and its complications. Risk factors include obesity, hypertension, diabetes mellitus, smoking, sheer stress or endothelial injury. One of the major complications is coronary steal syndrome.[3]

Patient usually presents with upper limb claudication and upper extremity pain at rest. The presence of symptoms depends on collateralization. Upper limb symptoms comprise arm claudication or muscle fatigue, rest and finger necrosis from embolic debris Physical examination reveals unequal BP in the arms and diminished pulse volume. Systolic blood pressure >10 mmHg of both arms has a positive predictive value of 13%. If the cut off of systolic blood pressure is increased by 15- or 20-mmHg, positive predictive value increases to 67% to 100% and negative predictive value up to 100%. Complications include coronary artery disease, transient ischemic attack, cerebrovascular ischemia or infarct.[4] Non-invasive diagnostic imaging for the diagnosis of subclavian artery thrombosis is duplex ultrasound with color flow. Doppler ultrasonography can also diagnose a reversal of ipsilateral vertebral artery flow as seen in subclaviansteal syndrome.[6] More accurate diagnostic modalities include computed tomography angiography and magnetic resonanceangiography.[5]

Duplex ultrasonography shows waveform dampening or monophasic changes, color flow suggestive of turbulent flow, and increased blood flow velocities at the location of the stenosis.[4] Medical therapy includes antiplatelet including aspirin or clopidogrel, HMG-CoA reductase inhibitors, and either angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers.[5] Endovascular intervention is the best modality currently available for relieving subclavian artery thrombosis including percutaneous transluminal angioplasty with stenting or ballooning.[6] Intraluminal balloon dilatation and stent implantation of the subclavian arteries is used to treat primary atherosclerotic occlusive lesions. Oral contraceptive pills are associated with increased risk of arterial and venous thrombosis. The risk has been reduced by introducing new generations of OCP with reduced dosages of estrogen.[7] A recent Cochrane meta-analysis of 24 studies showed that oral contraceptives increased the risk of arterial thrombosis, including MI or ischemic stroke by 1.6 folds; MI (Relative Risk [RR] 1.6, 95% CI 1.2 to 2.1) and ischemic stroke (RR 1.7, 95% CI 1.5 to 1.9).[8]

CONCLUSION

Uncontrolled diabetes could be the etiological factor of extensive thrombosis in a patient presenting with abnormal uterine bleeding leading to severe anemia. Severe iron-deficiency anemia with thrombocytosis may be a risk factor for thrombus formation. A good holistic approach to patient along with good clinical examination had helped in the diagnosis of thrombosis and saved a limb even when the presenting symptom was abnormal uterine bleeding and severe anemia. Anemia can be a multifaceted problem with varied presentation.

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REFERENCES

1. Mubarik A, Iqbal AM. Subclavian Artery Thrombosis. Treasure Island, FL. StatPearls. 2019.
2. Ochoa VM, Yeghiazarians Y. Subclavian artery stenosis: a review for the vascular medicine practitioner. Vasc Med. 2011;2:14-8.
3. English JA, Carell ES, Guidera SA, Tripp HF. Angiographic prevalence and clinical predictors of left subclavian stenosis in patients undergoing diagnostic cardiac catheterization. Catheter CardiovascInterv. 2001;54(1):8-11.
4. Millaire A, Trinca M, Marache P, de Groote P, Jabinet J-L Ducloux G. Subclavian angioplasty: immediate and late resulin 50 patients. Cathet Cardiovasc Diagn. 1993;29:8-17.
5. Mubarik A, Iqbal M. Subclavian Artery Thrombosis. Treasure Island (FL): Stat pearls publishing; 2020;12:24-8.
6. Osborn LA, Vernon SM, Reynolds B, Timm TC, Allen K. Screening for subclavian artery stenosis in patients who are candidates for coronary bypass surgery. Catheter CardiovascInterv. 2002;56(2):162-5.
7. Ghiasian M, Daneshyar S. Acute Subclavian Artery Thrombosis Secondary to Oral Contraceptive Agent Consumption: A Case Report. Reviews in Clinical Medicine. 2018;5(3):105-7.
8. Rahhal A, Khir F, Adam M, Aljundi A, Mohsen MK, Al-Suwaidi J. Low dose combined oral contraceptives induced thrombotic anterior wall myocardial infarction: a case report. BMC Cardiovascular Disorders. 2020;20(1):1-5.

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