

Case Report on Acute thrombotic occlusion of Right distal superficial femoral artery.

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ABSTRACT:

Introduction: A wide range of thrombotic and thromboembolic illnesses are caused by acquired hypercoagulable conditions. Thrombotic occlusion Any vascular blockage caused by a thrombus or by thromboembolism . A blood clot in an artery is known as arterial thrombosis. It's harmful because it can impede or stop blood flow to vital organs like the heart and brain. Arteriosclerosis, or the hardening of the arteries, can cause arterial thrombosis. When fatty or calcium deposits thicken the artery walls, this happens. Fatty material (called plaque) can build up in the artery walls as a result of this. This plaque has the potential to burst (rupture), causing a blood clot to form. **Patient history:** A 36 years old men was admitted in AVBR hospital date 8-7-21 with Chief complaint of pain and blackish discoloration of Right toes since 2 week. No any history of Hypertension, Diabetic mellitus and tuberculosis. **clinical findings:** The patient had undergone with various investigations like ultrasonography , complete blood test, KFT, Rapid Antigen Test. **Medical management:** patient was treated with Calcium supplement and Iron Supplement. **Nursing management:** Administered fluid replacement i.e. DNS and RL, ,NS, maintain input and out put chart monitor all vital sign hourly. **Conclusion:** Treatment and care of acute thrombotic occlusion of the right distal superficial femoral artery in a timely manner enhances the patient's outcome.

Keywords: Thrombolysis, Femoral artery, Thromboembolic, Arterial thrombosis, arterial wall.

Introduction:

The superficial femoral artery (SFA) thromboembolism is still a leading cause of limb ischemia and loss.¹ Thromboembolectomy with a Fogarty catheter or surgical bypass are both options, as is loco-regional pharmaceutical thrombolysis.

Thrombolysis, on the other hand, is limited by its high cost and the possibility of hemorrhagic complications. Percutaneous mechanical thrombectomy has lately been utilised with success.²

The femoral artery is a significant blood vessel in the thigh that delivers blood to the leg and thigh. The profunda femoris artery, which branches from the femoral artery on the anteromedial side of the thigh and descends into the femoral triangle, is also known as the deep femoral artery.³

The popliteal artery enters and travels through the adductor canal, It becomes the popliteal artery after passing through the adductor hiatus in the adductor magnus in the middle and distal thirds of the thigh.

At the level of the lateral ventricle, the femoral artery (FA) extends the external iliac artery (EIA)⁴. It also sends smaller branches to the front abdominal wall and superficial pelvis, in addition to giving oxygenated blood to the lower leg.

In clinical terms, the FA is also known as the common femoral artery (CFA) or the superficial femoral artery (SFA).⁵ The CFA is the part of the FA that runs between the inguinal ligament and the branching of the profunda femoris, whereas the SFA is the part of the FA that runs from the branching of the

profunda femoris to the adductor us.⁶ Some argue that the term "superficial" is misleading because the artery goes deep throughout the body in the mid thigh.

The superficial femoral artery, which is frequently linked with the popliteal artery as the femoral popliteal segment, is the most common site of peripheral arterial disease (70 percent). The superficial femoral artery is characterised by a widespread pattern of atherosclerotic pathology. frequent calcification, a significant plaque burden, and a high rate of progression to ultimate blockage.⁷ The femoral popliteal section is also subjected to a lot of flexion, bending, and compression stresses.⁸ There are several distinct elements in the presentation and diagnosis of pathology in the superficial femoral artery area, aside from the variance in anatomy and presentation of pathology.⁹ These, in combination with the downstream areas of supply that are at danger, can cause discomfort on exercise, pain at rest, or nonhealing ulcers ranging from the thigh to the foot. While these difficulties could originate from localised stenosis at the presentation level, an inflow lesion should always be considered.

Patient information: A 36 years old men was admitted in AVBR hospital date 8-7-21 with Chief complaint of pain and blackish discolouration of Right toes since 2 week. No any history of Hypertension, Diabetic mellitus and tuberculosis.

Primary concerns and symptoms of the patient: Pain and blackish discolouration of Right toes since 2 week. There Blood pressure was 120/60 mmHg and pulse rate is 78beats/minute.

Medical, family and psycho-social history: Present case had no any medical and surgical history. In family history he is belong to nuclear family and his wife had medical history i.e. DM. He mentally stable, conscious and oriented. He was maintaining the good relationship with family members , doctors and nurses as well as other patients also.

Relevant past intervention with outcomes: Not reported.

Clinical findings: Present case was unhealthy, she was conscious and oriented to date, time and place. Her body built was moderate and she was maintained good personal hygiene. Her blood pressure was normal i.e 120/60mmHg and pulse rate is 78 beats per minute. Left common femoral , superficial femoral , popliteal, posterior tibia, anterior tibia were examined.

Long segment diffused complete with no colour flow involving distal superficial , popliteal,anterior,posteriorong segment diffused complete with no colour flow involving distal superficial , popliteal,anterior,posterior tibia and dorsalis pedis artery.

Diagnostic assessment: History collection

Family history :

- Patients wife had medical history i.e. Diabetic mellitus.
- And no any surgical history of Patients Family.

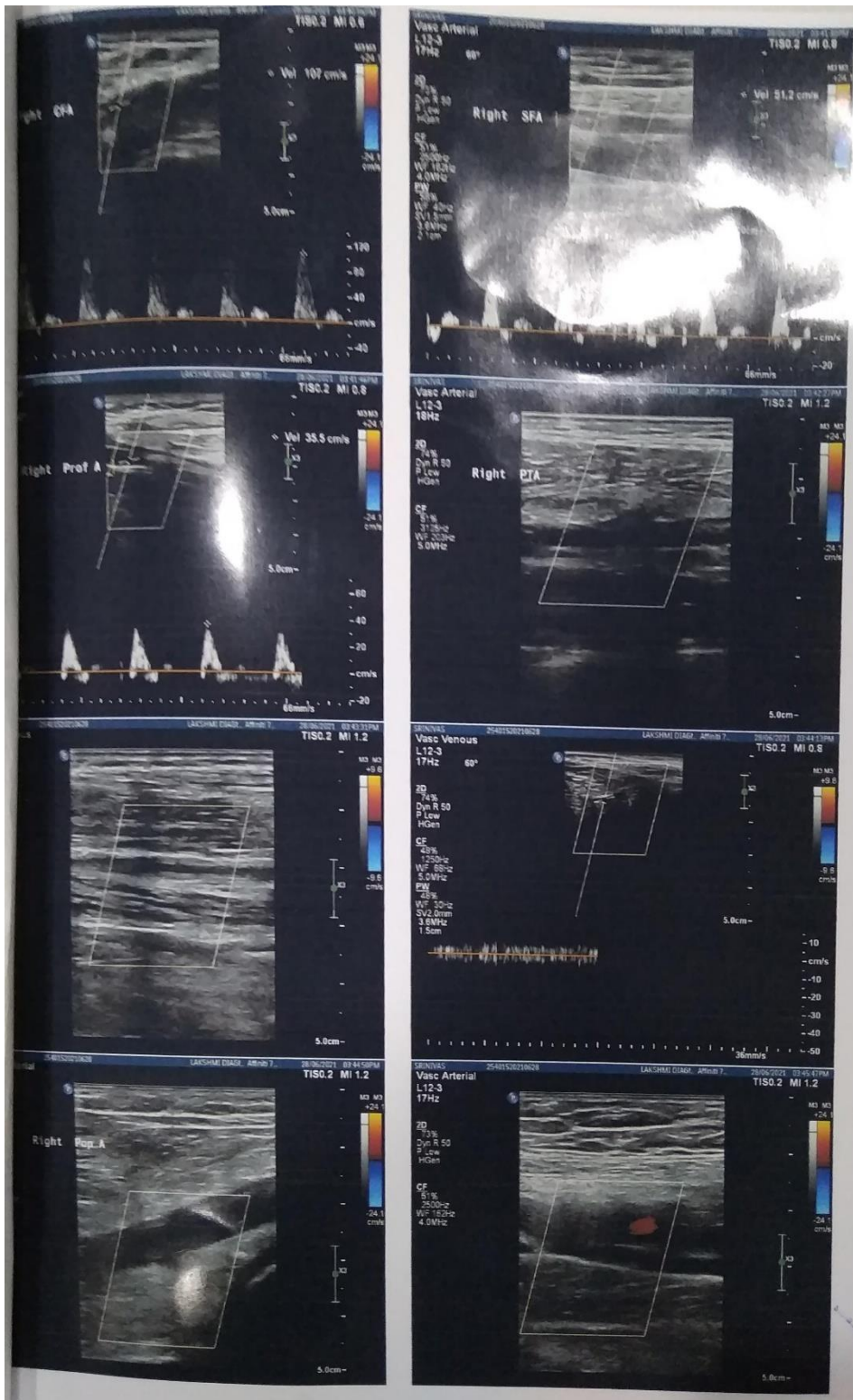
Physical examination:

-Height 159 cm

- 60 kg .

Patient history Illness:

- There is no other medical illness of patient .Present history was patient suffered form Thrombotic occlusion of Right distal superficial femoral artery.



Complete blood count — a blood test in which blood is drawn from the arm and sent to a facility for analysis.

Ultrasonography: There is evidence of mild to moderate atherosclerosis changes noted in the right lower limb. arteries in the form of irregular wall thickening and calcification.

The distal superficial femoral artery, which reaches up to the popliteal artery, as well as the ATA and DPA, has an e/o long segment occlusion. There was no flow in the distal superficial femoral artery, popliteal artery, ATA, or DPA.

There is good flow noted in the CFA and proximal and mid SFA

Prognosis: In ultrasonography finding was show the good flow noticed in all deep veins, there is no significant reflux in vein. No flow in the distal SFA. So prognosis was guarded.

Therapeutic intervention:

Present case took the medical management with Injection heparin-5000 iv

Tab. Clopitab-75mg

Tab. Uttracet-50mg

Injection Aggraben-25ml

Nursing perspectives: IV fluid was provided to maintain the fluid and electrolyte Monitored

Discussion:

This present case was admitted to the hospital with chief complaints pain in right bladdish, discolouration of Right toes since 2 week. There Blood pressure is a 120/60 mmHg and pulse rate is 78beats/minute.

Acute thrombotic blockage of the right distal superficial femoral artery was discovered after a physical examination and other procedures. SFA stenting outperforms balloon angioplasty in the treatment of lengthy lesions.¹⁰ Although early thrombosis with peripheral nitinol stents is uncommon, it can be a serious clinical problem with rapid and severe symptoms that require prompt treatment.¹¹ Partial vessel revascularization due to untreated in-flow or out-flow disease, which results in a thrombotic environment, is one of the main reasons. Late SFA thrombosis, which is commonly connected to stent fracture, has also been observed. Indeed, the superficial course of the SFA, which includes flexion points and interaction with the surrounding musculature, exposes the artery to external stresses such as compression, twisting, and elongation, which can lead to stent rupture. Late after stenting, this could have a deleterious impact on vascular patency.

Indeed, the enormous thrombotic burden occluding a long SFA portion posed a perilous situation as well as a therapeutic challenge, necessitating rapid treatment to prevent limb loss. We were able to remove the thrombus fast and restore blood flow without distal embolization using the Xpedior rheolytic catheter in combination with the Angiojet Ultra Thrombectomy System. This device uses high-speed saline jets to create a powerful low-pressure zone inside the catheter, sucking the thrombus into the catheter and removing it from the vessel.¹² Different studies on complications and management of thrombosis were reviewed¹³⁻¹⁸.

Conclusion:

Acute thrombotic occlusion of the right distal superficial femoral artery in a 36-year-old man. Peripheral angioplasty was performed on the patient. In line with previous clinical experience from small case series 12, 13, our case emphasises the need of understanding the likely causes of occlusive thrombosis after SFA stenting in order to offer the patient with the most appropriate and successful treatment. Thrombosis of a long SFA stented segment is a severe treatment issue due to the substantial thrombus burden. The Angiojet Ultra Thrombectomy System looks to be a safe and effective way to achieve rapid recanalization while avoiding distal embolization in these conditions.

References:

1. Katsanos K, Al-Lamki SA, Parthipun A, Spiliopoulos S, Patel SD, Paraskevopoulos I, Zayed H, Diamantopoulos A. Peripheral stent thrombosis leading to acute limb ischemia and major amputation: incidence and risk factors in the aortoiliac and femoropopliteal arteries. *Cardiovascular and interventional radiology*. 2017 Mar 1;40(3):351-9.
2. de Donato G, Pasqui E, Setacci F, Palasciano G, Nigi L, Fondelli C, Sterpetti A, Dotta F, Weber G, Setacci C. Acute on chronic limb ischemia: From surgical embolectomy and thrombolysis to endovascular options. *In Seminars in vascular surgery* 2018 Jun 1 (Vol. 31, No. 2-4, pp. 66-75). WB Saunders.
3. Oyerinde O, Lamb C. STUDY OF VARIATIONS IN PROFUNDA FEMORIS ARTERY AND ITS CIRCUMFLEX FEMORAL BRANCHES IN THIEL EMBALMED CADAVERS. *Int J Anat Res*. 2019;7(4.1):7060-65.
4. Silva JA, White CJ. Peripheral vascular angiography. *Vascular Disease: Diagnostic and Therapeutic Approaches*. Minneapolis, MN: Cardiotext Publishing. 2011:31-52.
5. Bonvini RF, Rastan A, Sixt S, Beschorner U, Noory E, Schwarz T, Roffi M, Dorsaz PA, Schwarzwälder U, Bürgelin K, Macharzina R. Angioplasty and provisional stent treatment of common femoral artery lesions. *Journal of Vascular and Interventional Radiology*. 2013 Feb 1;24(2):175-83.
6. Tzouma G, Kopanakis NA, Tsakotos G, Skandalakis PN, Filippou D. Anatomic variations of the deep femoral artery and its branches: clinical implications on anterolateral thigh harvesting. *Cureus*. 2020 Apr;12(4).
7. Van Velzen JE, Schuijff JD, De Graaf FR, Jukema JW, Roos AD, Kroft LJ, Schalijs MJ, Reiber JH, Van Der Wall EE, Bax JJ. Imaging of atherosclerosis: invasive and noninvasive techniques. *Hellenic J Cardiol*. 2009 Jul 1;50(4):245-63.
8. Fortier A, Gullapalli V, Mirshams RA. Review of biomechanical studies of arteries and their effect on stent performance. *IJC Heart & Vessels*. 2014 Sep 1;4:12-8.
9. Shmookler B, Bickels J, Jelinek J, Sugarbaker P, Malawer M. Bone and soft-tissue sarcomas: epidemiology, radiology, pathology and fundamentals of surgical treatment. *Musculoskeletal cancer surgery*. 2004:3-5.
10. Dick P, Wallner H, Sabeti S, Loewe C, Mlekusch W, Lammer J, Koppensteiner R, Minar E, Schillinger M. Balloon angioplasty versus stenting with nitinol stents in intermediate length superficial femoral artery lesions. *Catheterization and Cardiovascular Interventions*. 2009 Dec 1;74(7):1090-5.
11. Tsetis D. Endovascular treatment of complications of femoral arterial access. *Cardiovascular and interventional radiology*. 2010 Jun;33(3):457-68.
12. Müller-Hülsbeck S, Grimm J, Leidt J, Heller M. In vitro effectiveness of mechanical thrombectomy devices for large vessel diameter and low-pressure fluid dynamic applications. *Journal of vascular and interventional radiology*. 2002 Aug 1;13(8):831-9.
13. Abbafati, Cristiana, Kaja M. Abbas, Mohammad Abbasi, Mitra Abbasifard, Mohsen Abbasi-Kangevari, Hedayat Abbastabar, Foad Abd-Allah, et al. "Global Burden of 369 Diseases and Injuries in 204 Countries and Territories, 1990-2019: A Systematic Analysis for the Global Burden of Disease Study 2019." *LANCET* 396, no. 10258 (October 17, 2020): 1204–22.
14. Saoji, K., Shrivastava, S., Bhake, A., Kekatpure, A., Nikose, S., Kekatpure, A., 2020. Exploring the etiological evidences at avascular necrosis of femoral head by investigative approaches of histopathology, clinical assessment and radiology. *Indian Journal of Forensic Medicine and Toxicology* 14, 6754–6758. <https://doi.org/10.37506/ijfmt.v14i4.12679>
15. Jain, S., Nikose, S., Khan, S., Gupta, S., Mohabey, A., 2020a. Clinical outcome of supracondylar femoral fractures managed locking plate osteosynthesis in a rural hospital. *Indian Journal of Forensic Medicine and Toxicology* 14, 6450–6456. <https://doi.org/10.37506/ijfmt.v14i4.12616>
16. Madurwar, K.A., Phatak, S.V., Gode, C., 2020. Carotid artery evaluation and its correlation with white matter hyperintensities: A study protocol. *International Journal of Current Research and Review* 12, 62–64. <https://doi.org/10.31782/IJCRR.2020.SP64>
17. Seshan, S., Nagrale, N., Patond, S., Ambad, R., 2020. Management of coronary artery disease through yoga. *Indian Journal of Forensic Medicine and Toxicology* 14, 6531–6535. <https://doi.org/10.37506/ijfmt.v14i4.12633>

18. Thakkar, J., Bakane, B., Thute, P., Palsodkar, P., 2019. The study of peroneal artery variations aforethought for free fibular flap. *International Journal of Pharmaceutical Research* 11, 1148 | – 1152. <https://doi.org/10.31838/ijpr/2019.11.01.202>