Emergency endovascular management of leaking saccular abdominal aortic aneurysm

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Abdominal aortic aneurysms are relatively common, potentially life-threatening conditions that are often asymptomatic and incidentally detected on routine screening for other problems. Vague abdominal pain and backache are often the presenting complaints of this disease and are also the commonest complaints that a doctor comes across in the outpatient as well as the emergency room. Hence it is easy to misdiagnose this condition. This report will illustrate one such case involving a 57-year-old male who presented to the gastroenterologist with vague abdominal pain and backache. On further evaluation, an abdominal aortic aneurysm was incidentally detected on ultrasound. The patient course and complications that developed along with key points to be learnt from this case so as to identify this disease at an early stage and prevent its complications will be highlighted.

To study the safety and efficacy of vascular closure devices (VCD) after transfemoral PCI

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Background: In recent years, vascular closure devices have gained popularity and are being used for rapid hemostasis and early ambulation as an alternative to manual compression. Transradial interventions have been associated with a reduced risk of vascular complications compared with femoral artery access, especially access site related bleeding complication leading to reduction in morbidity in PCI. The transradial access has several advantages over transfemoral approach. The radial artery is easily compressible, thus bleeding is controllable and hemorrhagic complications are significantly reduced. Moreover, no major nerves or veins are located near the artery, minimizing the risk of injury of these structures. Finally, post procedural bed rest is not required, permitting immediate ambulation, more comfort, and early discharge. This last advantage has shown to improve quality of life for patients and to reduce the costs of hospitalization. Despite this large amount of benefits, the transradial approach is more demanding than transfemoral access and requires a longer learning curve for the operator. Furthermore, it does not give the possibility to use other devices such as a temporary pacemaker or intra-aortic balloon pump and to perform coronary interventions requiring 8-F catheters. Multiple studies have identified the incidence of major bleeding as a strong independent predictor of increased risks of early and late death or major adverse cardiovascular events (MACE) in patients presenting with acute coronary syndromes (ACSs) and undergoing invasive procedures. The access site bleeding represented 50–80% of all major bleeding, and thus, it is possible that TRA through its association with lower bleeding risk could favorably influence the risk of death and MACE after PCI. Clinicians who performed PCs in the early years of the procedure achieved hemostasis after femoral sheath removal via manual and/or mechanical compression approaches. These hemostasis strategies required that patients remain immobilized for extended periods of time (up to 8 h after a procedure). This approach created substantial discomfort and extended hospital stays. Alternative methods of achieving hemostasis were introduced into cardiac catheterization laboratories approximately 20 years ago, loosely termed as vascular closure devices (VCDs); these alternatives may potentially allow earlier sheath removal and ambulation with a similar or decreased complication rate compared with manual compression. VCD allow improved patient satisfaction and comfort related to the avoidance of prolonged sheath insertion and manual compression. VCD use allows immediate removal of the femoral sheath regardless of anticoagulation status. These devices have the potential to reduce the time to hemostasis, facilitate patient mobilization, decrease hospital length of stay, and improve patient satisfaction. Therefore, introducing VCD to close the arterial access site after hemodynamic interventions was designed to reach the same goals as the introduction of TRA into clinical practice: early mobilization of the patient, decreased incidence of bleeding complications, and enhanced patient and staff comfort. Using VCD to close the puncture site after interventions performed via the traditional femoral artery (FA) approach may offer the same advantages as the TRA, while achieving a shorter time to reperfusion in patients with acute coronary syndrome.

Three types of VCDs are commonly used. First are collagen plug VCDs, second type are suture-based VCDs, and last one are nitinol clip-based VCDs used for femoral artery hemostasis after PCI. The suture based Perclose device is used to close the femoral artery access sites percutaneously following coronary intervention in fully anticoagulated patients. The Perclose ProGlide Suture-Mediated Closure (SMC) System is designed to deliver a single monofilament polypropylene suture to close femoral artery puncture sites following diagnostic or interventional catheterization procedures. This Perclose ProGlide device is composed of a plunger, handle, guide, and sheath. The Perclose ProGlide tracks over a standard 0.038” (or smaller) guide wire. A hemostasis valve restricts the blood flow through the sheath with or without the guide wire in place. The guide houses the needles, and the foot, and precisely controls the placement of these needles around the puncture site. The handle is used to stabilize the device during use. The plunger advances the needles and is used to retrieve the suture. A marker lumen is contained within the guide, with the intraluminal port of the lumen positioned at the distal end of the guide. Proximally, the marker lumen exits from the body of the device. The marker lumen allows a pathway for back-bleeding from the femoral artery to ensure proper device positioning. Methods: In this study after the completion of PCI, the local access site was closed by the suture based Perclose ProGlide VCD of Abbott Company in patients with transfemoral PCI. The radial compression band was used for patients who underwent transradial PCI. The study was done to see the safety and efficacy of vascular device closure following transfemoral PCI. The patients were observed for local site complications like oozing of blood, hematoma, infection, pseudoaneurysm, A-V fistulae, and death in both femoral VCD group and radial group. The mean time to ambulation and discharge were calculated in both group and the results were