(*Refer to page 82*)

Answer: Acute Stanford A Aortic Dissection

The axial view of contrast-enhanced CT scan at the level of aortic arch showed extensive intimal flap suggestive of a thoracic aortic dissection (Figure 1a). There is another lumen within the aortic lumen as shown in the image given. Aortic intima tear creates a false lumen. It is sometimes difficult to ascertain between the false and true lumen. There are few characteristics which are suggestive of a false lumen: 1) A false lumen is usually hypodense due to retained or delayed contrast enhancement, 2) Calcified intimal media displacement centrally from its normal position, 3) Strands of intima within the true lumen and filling defects. [1]

The CT scan findings suggest of Stanford Type A thoracic dissection, which started at the aortic root of aorta with extension to the level of common iliac artery (Figure 1b). Stanford B is classified as occurrence of intimal tear commences distal to the left subclavian artery. Stanford B in general is treated with blood pressure and heart rate control. A CT scan is confirmatory for the diagnosis. Digital Subtraction angiography (DSA) is usually performed prior to endoluminal aortic repair or to confirm artery of Adamkiewicz ostium.

The diagnosis of thoracic aortic dissection was suspected in our patient based on the characteristic of his chest pain and significant radial-radial and radial-femoral significant radial-radial and radial-femoral delay. Bedside transthoracic echocardiography raphy using the suprasternal notch view technique (SSNV) has been shown to assist and hasten the diagnosis of a thoracic aortic aneurysm. [2- 5] Trained physicians in the ED can easily obtain the SSNV.

The role for endovascular repair of type A dissection is limited due to its difficult anatomical structure attributed by its acute angle and presence of thoracic aorta branches. The determination of the entry tear (ET) of the dissection can be made by reviewing the CT angiography images in multi-planar view. The suitability for endovascular repair criteria are dependent on adequacy of the proximal landing length (≥2cm), good distance between ET and right brachiocephalic artery ≥2 cm (distal landing zone), no normal variant cephalic branches from the ascending aorta, or bypass graft originating from the ascending artery and absence of severe aortic regurgitation. [6] The main aim of the placement of this covered stent is to seal the ET completely.

The aortic dissection in our patient involved the proximal aortic root, thus it is not possible for the endovascular approach. The standard care for this would be to replace the entire aortic root with a graft and composite valve. This procedure is also known as Bentall's procedure. The patient was rush to the operation theatre for emergency surgical repair. Unfortunately, he succumbed intraoperatively due to severe blood loss.

REFERENCES

1: MC MAHON MA, SQUIRRELL CA. Multidetector CT of Aortic Dissection: A Pictorial Review. Radiographics. 2010; 30(2):445-60.
2: KINNAMAN KA, KIMBERLY HH, PIVETTTA E, PLATZ E, CHUDGAR A, ADUCCI A, STONE MB, REMPELL JS. Evaluation of the Aortic Arch from the Suprasternal Notch View Using Focused Cardiac Ultrasound. J Emerg Med. 2016; 50(4):643-50.
3: MING JH. Acute Stanford Type A. Aortic Dissection Diagnosed by Transthoracic Echocardiography. Journal of Medical Ultrasound 2011;19: 95-98.
4: DUGGAL S, LYON M, BLAIVAS M. Bedside diagnosis of extensive aortic dissection. Critical Ultrasound Journal. 2009; 1(1): 17–19.
5: GOLDFINGER JZ, HALPERIN JL, MARIN ML, STEWART AS, EAGLE KA and FUSTER V. Thoracic Aortic Aneurysm and Dissection. Journal of the American College of Cardiology. 2004; 64 (16) 1725-39.
6: ZHANG Y, TANG H, ZHOU J, LIU Z, LIU C, QIAO T, ZHOU M. The imaging assessment and specific endo-graft design for the endovascular repair of ascending aortic dissection. Clin Interv Aging. 2016; 14(11) :933-40.