الجامعة الإسلامية العالمية ماليزيا
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA
يونيۏرسيتي إسلام انتارابڠسا مليسيا

Radhiana H[1], Zainon AR[2], Mubarak MY[2], Kamarul AT[2]
[1]Radiology Department, International Islamic University Malaysia, Kuantan, Pahang.
[2] Department of Diagnostic Imaging, Hospital Tengku Ampuan Afzan, Kuantan, Pahang.

PULMONARY AVM: DIAGNOSIS VIA SPIRAL CT SCAN A CASE REPORT

Introduction:
Pulmonary arteriovenous malformations (PAVMs) are abnormal communications between pulmonary arteries and pulmonary veins. It is a rare clinical problem.
This case illustrates the use of spiral CT scan in diagnosing this condition.

Case report:
A 55- year- old man presented with shortness of breath and cough. There was no associated chest pain or fever. He had underlying diabetes mellitus , hypertension and valvular heart disease. Clinically this patient had congestive cardiac failure, NYHA Class II. Chest radiograph showed nodular opacities in the right lower zone. Spiral CT scan revealed a pulmonary arteriovenous malformation in the lower lobe of right lung.
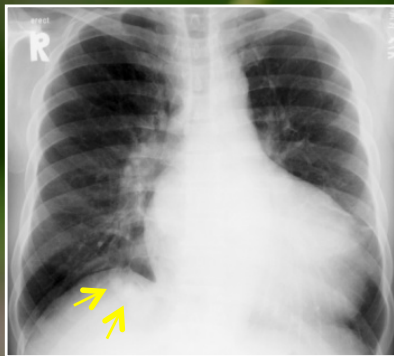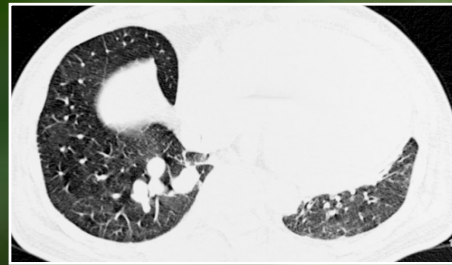He was referred to IJN for further management.

Figure 2: Axial CECT image , lung window setting. There are multiple nodular lesions , similar density with vessels characteristic of vascular lesion.

Figure 3: Reformatted CT scan image showed the nodular densities were arteriovenous malformation with a single supplying artery and draining vein.

Figure 1: Chest radiograph showed well-defined nodular opacities (arrows) in the right lower lobe.

Discussion
▪PAVM is not a common clinical problem. Only three cases of PAVMs were detected in 15,000 consecutive autopsies[1].
▪Radiologically, this condition is an important differential diagnosis of pulmonary nodules detected on chest radiograph.
▪Pulmonary angiogram is the gold standard in the diagnosis of PAVM. However, limited angiogram services in many of our hospital limits its use as a diagnostic tool.
▪Spiral CT scan is recommended as a diagnostic tool[2]
▪Advantages of spiral CT scan:
✓three-dimensional reformatted images with adjusted window setting to visualize the vascular structure can clearly show the architecture of the PAVM (as shown in Figure 3).
✓high sensitivity of 98% to detect PAVM.
✓noninvasive nature
▪Disadvantages of spiral CT scan
✓prolonged breath holding,
✓false positive with vascular tumour

Conclusion:
In centre where angiogram service is not available and in cases where pulmonary angiogram is contraindicated, spiral CT is the diagnostic tool of choice as it is highly accurate in demonstrating PAVMs and their architecture.

References:
1. Gossage JR, Kan G. Pulmonary Arteriovenous Malformations: A state of the art review. Am J Respir Crit Care Med. 1998; 158:643-661.
2. Webb WR, Higgins CB. Thoracic Imaging: Pulmonary and cardiovascular radiology. Lippincott Williams & Wilkin. Philadelphia, 2005.

Garden of Knowledge and Virtue

14th National Conference on Medical and Health Sciences