SUMMARY AND CONCLUSION

Acute aortic dissection is a potentially life-threatening condition that requires prompt and accurate diagnosis to initiate appropriate surgical in intervention or medical treatment.

Acute aortic syndrome can be due to acute aortic dissection, intramural hematoma, penetrating atherosclerotic ulcer , or unstable thoracic aneurysm. These life-threatening conditions are clinically indistinguishable , often presenting with acute chest pain.

CT proved to be highly accurate in the evaluation of all causes of acute aortic syndrome it provided all the important information required. Recent advances in CT technology, such as multi–detector row CT, may allow imaging of the whole volume of the aorta in a single continuous acquisition. The major advantages of this new technology are faster speed, versatility and isotropic spatial resolution.

Cardiac gating is essential to avoid cardiac motion artifacts when evaluating the aortic root with contrast enhanced multi-detector CT.

Intravenous contrast is necessary for CT to achieve its high accuracy for diagnosing aortic disease. CT scans obtained on MDCT scanner using a dedicated aortic protocol that involved unenhanced scanning followed by enhanced arterial scanning from the aortic arch to the bifurcation.

The improved resolution of CT has permitted the development of new investigations, which may have advantages; compared to conventional angiography Increased CT usage has led to an overall rise in the total amount of medical radiation used

The rapid, large-volume acquisition that can be obtained with MDCT allows imaging of both the thoracic and abdominal components of the dissection and assessment of extension of the dissection into abdominal and pelvic branch vessels with one injection of contrast. Image post processing of the volumetric data using multiplanar reformatting and 3D volume rendering of the data set facilitate evaluation of the course of the intimal flap.

Although some have hypothesized that aortic IMH is a precursor to aortic dissection the precise relationship between IMH and aortic dissection remains unclear. Several investigators have attempted to assess the usefulness of CT findings for predicting the progression of aortic IMH to aortic dissection. MDCT allow diagnosis of IMH as well as its progression and healing .

Role of MDCT in aortic aneurysm is to differentiate different types of aortic aneurysms as well as for assessing complications of aneurysms, in the differentiation of aortic aneurysm from a paraaortic mass , and aneurysm rupture.

The authors recommend performance of contrast-enhanced CT scanning beginning at the aortic arch and extending to the diaphragmatic hiatus for optimal diagnosis of perforating atherosclerotic ulcer also detect complication of PAU , differentiate it from other causes of acute aortic syndrome as well as follow up.

Although several of the various pitfalls and artifacts that mimic aortic dissection at MDCT are easy to recognize and are not likely to present a diagnostic problem, others are potentially confusing. Familiarity with these common pitfalls, coupled with a knowledge of normal intrathoracic anatomy, can help radiolo gists avoid interpretive errors in the diagnosis of aortic dissection in almost all cases..