



## Intravascular ultrasound for detection of acute aortic syndrome



Acute aortic syndrome (AAS) includes classic aortic dissection, aortic intramural haematoma, and penetrating atherosclerotic ulcer. These conditions often have similar clinical manifestations, creating diagnostic difficulties. A new study, published in the journal *Cardiovascular Innovations and Applications*, presents a case of a patient with aortic intramural haematoma that was missed by conventional imaging studies and the role of intravascular ultrasound imaging in detection of AAS.

The most commonly used imaging studies for detecting AAS include transthoracic echocardiography, transoesophageal echocardiography, and contrast-enhanced computed tomography (CT). Although conventional noninvasive imaging techniques have high sensitivity and specificity in the diagnosis of AAS, they still have some limitations in differentiating the particular forms of AAS. The journal study presents a case example in which intravascular ultrasound (IVUS) imaging could be useful in this aspect.

Acute aortic syndrome is a term that refers to the acute presentation of potentially life-threatening abnormalities of the aorta, including classic aortic dissection, aortic intramural hematoma (AIH), and penetrating atherosclerotic ulcer (PAU). These diseases may present with a variety of symptoms and mimic other conditions, such as acute coronary syndrome, pulmonary embolism, and pericarditis. However, the diagnosis of AAS has many potential difficulties. Because of the similar clinical manifestations, there is a high risk of misdiagnosis.

"Accurate diagnosis and prompt treatment are essential as all the aforementioned conditions are a significant threat to a patient's life. However, acute aortic syndrome and especially aortic intramural haematoma may be challenging diagnostic problems," study authors note. "Intravascular ultrasound imaging is a diagnostic method that can be useful for more thorough evaluation of the aortic lesion and can particularly aid in discerning the different forms of acute aortic syndrome."

In this case study, traditional imaging studies failed to detect a patient's aortic intramural haematoma (AIH), but this was successfully visualised with intravascular ultrasound imaging.

In addition to classic aortic dissection and penetrating atherosclerotic ulcer, AIH is one of the causes of AAS. These conditions can be identical in their clinical manifestation, but they have important differences in diagnosis and management.

The authors say the case presented draws attention to the importance of clinical suspicion of AAS, with its particular forms, the value of using more than one imaging method, and the benefits of IVUS imaging in the prompt diagnosis of this condition, which is essential to saving the lives of patients.

Source: [Cardiovascular Innovations and Applications](#)  
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