INTRODUCTION

Coronary CT angiography is a non-invasive imaging technique that can provide detailed information about the coronary arteries. It is widely used in the evaluation of patients with chest pain or suspected coronary artery disease. The American College of Radiology and the Society of Cardiovascular Computed Tomography (SCCT) have developed a consensus document to standardize reporting of coronary CT angiography (CAD-RADS). This document provides guidelines for the classification and interpretation of coronary CT angiography images, helping to improve consistency and accuracy in clinical practice.

GENERAL PRINCIPLES

1. To discuss CAD-RADS assessment
2. To review evidence supporting the appearance of CAD-RADS
3. To determine the relevance of chronic stable chest pain coronary CT angiography for the CAD-RADS reporting and data system for patients presenting with acute chest pain

CAD-RADS CASE EXAMPLES

Example: CAD RADS 0 – Acute chest pain. There is likely a low risk of coronary artery disease (CAD). The coronary arteries arise in normal position. There is an absence of coronary artery disease (CAD) with no significant stenosis or occlusion and demonstrates non-obstructive disease (25-49%) in the LCX and LAD coronary artery (no calcification).

Example: CAD RADS 1 – Acute chest pain. There is a moderate risk of CAD. The LAD coronary artery demonstrates focal non-calcified plaque with a peripheral rim of higher density, and no significant stenosis or occlusion and demonstrates non-obstructive disease (25-49%) in the LCX and LAD coronary artery (no calcification).

Example: CAD RADS 2 – Acute chest pain. There is a high risk of CAD. The LAD coronary artery demonstrates focal non-calcified plaque with a peripheral rim of higher density, and >99% stenosis. In this case, high-risk features include >99% stenosis and >30% diameter stenosis. The treatment plan should be discussed with the patient, and further investigation or management may be needed.

Example: CAD RADS 3 – Acute chest pain. There is a moderate risk of CAD. The LAD coronary artery demonstrates focal non-calcified plaque with a peripheral rim of higher density, and 70-99% stenosis. In this case, high-risk features include >70% diameter stenosis and >30% diameter stenosis. The treatment plan should be discussed with the patient, and further investigation or management may be needed.

Example: CAD RADS 4 – Acute chest pain. There is a high risk of CAD. The LAD coronary artery demonstrates focal non-calcified plaque with a peripheral rim of higher density, and >99% stenosis. In this case, high-risk features include >99% stenosis and >30% diameter stenosis. The treatment plan should be discussed with the patient, and further investigation or management may be needed.

Example: CAD RADS 5 – Acute chest pain. There is a high risk of CAD. The LAD coronary artery demonstrates focal non-calcified plaque with a peripheral rim of higher density, and >99% stenosis. In this case, high-risk features include >99% stenosis and >30% diameter stenosis. The treatment plan should be discussed with the patient, and further investigation or management may be needed.

REFERENCES