

Commentary to the article “Coronary computed tomography angiography for the assessment of SYNTAX score”

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We read with great interest the article written by Wolny et al. “Coronary computed tomography angiography for the assessment of SYNTAX score”, which was recently published in “Kardiologia Polska” (doi 10.5603/KP.a2015.0135) [1].

The authors found that coronary computed tomography angiography (CCTA) had a good reliability in detection of significant coronary lesions and assessment of SYNTAX score, showing a good correlation with the results of invasive coronary angiography [1]. The study is well written, and the authors should be congratulated for their results.

However, after studying the patient data we have several comments regarding this article. It is well known that a high calcium score precludes a good quality CCTA image. The presence of extensive calcification in the coronary arteries makes it very difficult to analyse the presence and severity of coronary stenoses by CCTA, and a high calcium score (above 1000 Agatston units) usually represents an indication for invasive coronary angiography [2]. Due to the difficulty in providing accurate information related to coronary circulation, estimation of the CCTA-derived SYNTAX score would be extremely difficult in these patients with high calcium score. At the same time, the presence of severe calcifications is frequently encountered in patients with a high SYNTAX score (above 32), which represented a minority in the population in this study (3.3% in the case of invasive coronary angiography-calculated SYNTAX score, and 4.4% in the case of CCTA-calculated SYNTAX score). Therefore, we can assume that the population with extensive coronary calcifications is

under-represented in this study, and the reliability of CCTA for estimation of the SYNTAX score could be lower in cases with severe calcification in the coronary tree. Other studies also reported inferior agreement coefficients between ICA and CCTA in cases with high SYNTAX scores [3]. Invasive coronary angiography could remain, in our opinion, a superior method to estimate the severity of coronary lesions based on the SYNTAX score in cases with heavy calcifications of the coronary artery walls.

The study is well designed and leads to important conclusions that could influence clinical practice. However, we believe that development of the study in order to enrol more patients with severe coronary artery disease, extensive calcification, and high SYNTAX scores by invasive coronary angiography could help to further elucidate the role of CCTA for estimation of the SYNTAX score in different clinical settings.

Conflict of interest: none declared

References

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