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Abstract 41: The Results of Coronary Computed Tomography Angiography over a 3 Years Period in a Busy Radiology Devision.

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Introduction: Coronary CTA is an excellent method to rule out coronary artery disease (CAD) in patients with low and intermediate risk factors for CAD. With newer generations of CT machines hospitals are implementing cardiac CT service. Randomized clinical studies have shown excellent results with high sensitivity and spesificity. A treshold of > 50% stenosis may lead to many unnecessary referrals for invasive procedure. Is cardiac CT alone good enough to predict clinical significant coronary stenosis?

Methods: A total of 553 men and 660 women (mean age 57,1 Std.11) were in the period February 2013 to December 2015 examined with Dual-Source CT (Siemens Definition Flash) in order to rule out coronary disease. Every patient was examined pr.vessel disease. All patients with a narrowing of 50% or more, were referred to an invasive catheterization. The results of the invasive examinations was looked up in the clinical record for each patient.

Results: Mean BMI was 27,1 and mean Agatstone score was 205.9 (range 0- 4791) for both gender. 61 % reported current or previous smoking, 34,5 % had never smoked. All patients < 30 years had normal coronaries. The probability of having a coronary stenosis (> 50%) increased with age, as expected. A total (all age groups) of 31% had a significant stenosis in one or more coronary segments on CCTA and were referred to invasive angiography. 53% of these patients were diagnosed with no obstructive coronary disease (< 50% stenosis).

Conclusions: If a stenosis > 50% is used as referral to invasive coronary angiography the specificity is low in real life clinical practice. In our study only 53% of the reffered patients had clinical significant coronary stenosis requiring intervention. The increasing use of invasive pressure gradient measurement (FFR) may have impact on what degree of stenosis an invasive operator may call obstusctive or a non-obstructive disease. The high spesificity in earlier cardiac CT studies may not be relevant in todays clinical practice. When implementing cardiac CT service it is important to be aware of these factors. Well trained cardiac CT operators with high volume experience, proper patient selection and close cooperation with clinical cardiologist are necessary to avoid unnecessary referrals to invasive prosedure. Supplementary methods as CT-FFR may also contribute to avoid unnecessary invasive procedures.

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