

Use of coronary physiology in chronic coronary syndromes in Germany from 2007–2017

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Objectives: Coronary physiology is increasingly used in evaluating coronary stenosis, but the penetrance of FFR (Fractional Flow Reserve) or resting indices (e.g. iwFR or RFR) in daily clinical routine is not known.

Methods: The number of coronary angiographies and use of coronary physiology (CP) in patients with chronic coronary syndromes (CCS) in Germany was identified by ICD and OPS codes.

Results: From 2007 to 2017, there was a constant increase in CP usage, with an application rate of 9.19% in 2017. Patients with use of CP were younger (68.8 vs. 70.8 years), had less often severe co-morbidities (peripheral or carotid disease, chronic obstructive pulmonary disease, pulmonary hypertension, renal disease, atrial fibrillation, diabetes), had milder symptoms (10.4 vs. 14.4% in NYHA class III or IV), and a lower EuroSCORE (6.1

vs. 8.3%). Less coronary stents were implanted in patients with use of CP (0.6 vs. 0.8, 95% CI: -0.14–0.26; $p < 0.001$), even after risk adjustment for co-morbidities. Concerning in-hospital outcomes, acute kidney injury occurred less in CP (1.8 vs 3.7%) with subsequent shorter hospital stays (4.3 vs. 5.9 days). Also in-hospital morbidity was lower in CP (0.28 vs. 1.5%), even after risk adjustment (OR 0.28, $p < 0.001$, 95% CI: 0.23–0.36).

Conclusions: In 2017, coronary physiology was used in 9.19% of patients with CCS in Germany. CP resulted in better in-hospital outcomes and less stent implantations. The reasons for a reduced use of CP in patients with significant co-morbidities, and their impact on clinical outcomes require further attention and evaluation in the future.