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MSCT angiography multidisciplinary team impact on catheterization lab workload: case study of Dubrava University Hospital

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Introduction: Current chronic coronary syndrome guidelines suggest MSCT coronary angiography (MSCTCA) as a preferred diagnostic modality for patients with suspected coronary artery disease (CAD) without high risk features.[1] Multidisciplinary team (MDT) consisting of radiologists, cardiologists, and interventionists was organized in Dubrava University Hospital in Sep 2025 to systematically approach patients with suspected CAD. We analyzed the impact of MSCTCA availability and MDT on workload trends of catheterization lab in Dubrava University Hospital from Sep 2024 to Sep 2026.

Patients and Methods: Numbers of pure diagnostic invasive coronary angiographies, percutaneous coronary interventions (PCI), and complex coronary interventions (CCI) were compared among three periods: Sep 2023 – Sep 2024 (weekly MSCTCA program), Sep 2024 – Sep 2025 (daily MSCTCA program), and Sep 2025 – Sep 2026 (MSCTCA MDT program). Complex coronary interventions were defined as either chronic total occlusion, complex bifurcation, severely calcified lesions or mechanic circulatory support revascularization PCI.

Results: Number of pure diagnostic invasive coronary angiographies decreased from 1912 during the weekly MSCTCA period, to 1795 (7% decrease) during daily MSCTCA period, and down to 1633 (15% decrease) during MSCTCA MDT period. Number of PCI increased from 802 during weekly MSCTCA period to 860 (7% increase) during the daily MSCTCA period, and up to 913 (12% increase) during the MSCTCA MDT period. Numbers of CCI during the observed periods increased from 122 to 138, and up to 171 (29% increase) in the MSCTCA MDT period with CCI comprising 19% of all PCI currently in the catheterization lab in Dubrava University Hospital.

Conclusion: As expected, increasing numbers of MSCTCA decreased the need for pure diagnostic coronary angiographies in the catheterization lab. However, the organization of systematic MDT approach to CAD diagnosis and treatment coincided with an increase in total number of PCI, and moreover in a significant increase in numbers of CCI. Further improvement in MSCTCA diagnostic value with photon counting technology and CT derived functional coronary diagnostics, together with real-time MSCT PCI planning could help in establishing cardiac catheterization labs as places intended mostly for intervention and specialized invasive diagnostic procedures such as right heart catheterization, heart biopsy, wire-based functional diagnostics and intracoronary imaging.

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LITERATURE

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