The impact of functional diagnostics on the optimization of percutaneous coronary intervention procedures – a single center experience

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Over the past decade, we have witnessed significant advancements in invasive and interventional cardiology. In practice, interventional cardiology aims to overcome the limitations of two-dimensional imaging by incorporating functional diagnostics such as IVUS (intravascular ultrasound), FFR (fractional flow reserve), and OCT (optical coherence tomography). IVUS is a diagnostic test that uses sound waves to provide a clear depiction of the inner lumen of the coronary artery, allowing for the assessment of atherosclerotic plaques. FFR is a minimally invasive procedure that measures the ratio of maximum blood flow through a narrowing compared to normal maximum flow. FFR values between <0.75 and 0.8 are considered functionally significant. This technique is highly valuable for identifying clinically relevant lesions. OCT enables high-resolution imaging of the coronary arteries by utilizing a light beam that scatters, providing interventional cardiologists with ten times better resolution than IVUS technology. Minimally invasive techniques offer a more detailed insight into vascular structure and clearer results within precise mathematical representations. Consequently, they provide more accurate and precise data, enhancing patient management and treatment strategies. This approach ensures that treatment decisions for patients with ischemic heart disease are made based solely on objective parameters, supplementing the limitations of two-dimensional X-ray imaging, image quality (graininess), and the subjective interpretation of the operator (experience or inexperience), thus forming a more comprehensive evaluation.[1-3]

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LITERATURE

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