Improvement of symptoms and quality of life in patients with coronary vasomotion disorders by endotype-based drug therapy

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Introduction: In patients with angina pectoris and/or signs of ischemia but no obstructive coronary artery disease (ANOCA) coronary vasomotion disorders are a frequent cause for their symptoms. However, the heterogeneous clinical presentation resulting from a wide spectrum of subtypes (so-called endotypes) poses a major therapeutic challenge. Many patients suffer from long-term refractory symptoms and severely reduced quality of life.

Purpose: The purpose of this study was to demonstrate that the quality of life of these patients can be improved by an endotype-based drug therapy.

Methods: A total of 50 patients (56% women, mean age 63±14 years) with a confirmed diagnosis of coronary vasomotion disorder were enrolled between April 2021 and February 2022. The endotypes were classified according to the diagnostically distinguishable subtypes (coronary spasm: n=30; vasodilatation disorder: n=3; combined vasomotion disorder: n=17). Based on the guideline recommendations of the European Society of Cardiology, an individual endotype-adapted medication was prescribed. The efficacy and tolerability of the medications were monitored over a period of 3 months. In addition, the quality of life was assessed quantitatively (score 0-100) using the Seattle Angina Questionnaire-7 (SAQ-7) at baseline and after 1, 2 and 3 months. The symptoms at home were documented weekly using a patient diary (PROM).

Results: Within the study population, arterial hypertension (74%) and dyslipidemia (80%) were among the most frequent concomitant cardiovascular risk factors. After 3 months of endotype-based antianginal therapy, a clinically relevant and significant improvement of 15 points on average in the SAQ7-score was achieved in 70% of the patients within the entire cohort (p<0.001), while no change (<5 points) was recorded in 14% of the study participants and 16% experienced an aggravation in the clinically relevant range (≥5 points). Accordingly, the PROM mood score (scale 1-5) also showed a significant improvement of 0.5 points (2.7±0.8 vs. 3.2±0.8; p<0.001) as well as a significant decrease in monthly number of chest pain attacks by 38% (11.7±13.6 vs. 7.3±15.4; p=0.041) and nitroglycerin intake by 67% (2.7±5.9 vs. 0.9±2.6; p=0.004). When comparing the initial and final medication, a significant increase (33%) in the intake of calcium channel antagonists (non-DHP) was recorded in patients with coronary spasm (p=0.004). Within the patient group with combined vasomotion disorders, statins, ezetimibe and ranolazine were taken significantly more often by 35% respectively at the end of the observation period (p=0.031).

Conclusion: Targeted endotype-based drug therapy can contribute decisively to a clinically relevant improvement of symptoms and quality of life in ANOCA patients.
Outcome of the whole patient cohort

SAQ improvement during follow-up