

Early experience with mavacamten for treatment of obstructive hypertrophic cardiomyopathy at the University Hospital Centre Zagreb

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Goal: To report our centre's experience with screening and introduction of mavacamten in symptomatic patients with obstructive hypertrophic cardiomyopathy (HOCM).

Patients and Methods: Mavacamten has demonstrated improvements in left ventricular outflow (LVOT) obstruction, symptoms, and NT-proBNP levels in patients with symptomatic HOCM.^{1,2} We report the characteristics of the first patients initiated on mavacamten therapy at the University Hospital Centre Zagreb. Patients with HOCM, previously hospitalized at our heart failure unit or outpatient clinics, were evaluated for reduced functional status to assess for mavacamten candidacy. Before drug introduction, pharmacogenetic testing was performed for CYP2C19 to determine the starting drug dose. Clinical reevaluation and echocardiographic follow-up were performed after 4 weeks of treatment.

Results: Five patients with signs of functional impairment, all presenting with NYHA III functional status, were determined as first candidates for treatment. Patient characteristics are shown in **Table 1**. Mean patient age was 53 ± 12 years with three female and two male patients. Three patients had a negative genetic cardiomyopathy panel, whereas in two the results are pending. All patients had a normal CYP2C19 metabolizer phenotype. At the time of this report, two patients reached the 4-week follow-up checkpoint, both reporting a significant improvement in functional capacity (now assessed as NYHA II), and an improvement in well-being (e.g., decreased chest pain, reduced fatigue). The LVOT gradient decreased from 110 and 70 mmHg to 26 and 48 mmHg, respectively, resulting in an average -53 mmHg decrease in LVOT gradient in the first 4 weeks. NT-proBNP decreased from 486 and 3321 ng/L to 166 and 597 ng/L, respectively. Treatment was well tolerated in both patients.

Conclusions: Our centre's initial experience with mavacamten reflects the results of clinical trials

showing improvement in LVOT obstruction, NYHA functional class and overall patient health status. Further patient and family screening will be crucial for adequate disease recognition and appropriate and timely treatment introduction.

TABLE 1. Patients initiated on mavacamten treatment (n=5).

General characteristics	
Age, years, mean (standard deviation)	53 (13)
Female gender, n (%)	3 (60)
Body mass index, kg/m ² , mean (standard deviation)	34 (4)
Positive genotype for HCM, n (%)	0 (0)
Ventricular tachycardia or syncope in patient history, n (%)	0 (0)
Implantable cardiac defibrillator, n (%)	3 (60)
Atrial fibrillation, n (%)	4 (80)
Beta blocker use, n (%)	5 (100)
Alcohol septal ablation performed, n (%)	1 (20)
Echo and laboratory parameters at introductory visit	
LV ejection fraction (%), mean (standard deviation)	67 (2)
Global longitudinal strain (%), mean (standard deviation)	-11 (3)
Maximal myocardial thickness (mm), mean (standard deviation)	28 (5)
Maximal LVOT gradient (mmHg), mean (standard deviation)	76 (18)
Systolic anterior mitral leaflet motion, n (%)	3 (60)
LA indexed volume (ml/m ²), mean (standard deviation)	53 (6)
NT-proBNP (ng/L), mean (standard deviation)	1854 (2533)

HCM = hypertrophic cardiomyopathy; LA = left atrium; LV = left ventricle; LVOT = left ventricular outflow

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LITERATURE

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