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).

MATERIAL 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 in 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.

General characteristics	
Age, years, mean (standard deviation)	53 (13)
Female gender, n (%)	3 (60)
BMI, kg/m2, 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/m2), mean (SD)	53 (6)
NT-proBNP (ng/L), mean SD)	1854 (2533)

Table 1 - Patients initiated on mavacamten treatment (n=5)

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.

CONCLUSION

- 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.

REFERENCES:

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