EE434

Health Care Resource Use and Costs in Transthyretin Amyloid Cardiomyopathy - A Swedish Medical Record Review Study

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Background

- Transthyretin Amyloid Cardiomyopathy (ATTR-CM) is an underdiagnosed and fatal disease manifesting as progressive heart failure [1]. The overall prevalence of ATTR-CM has been estimated to 17 per 100 000 in Sweden for 2018 [2].
- Historically, there has been an absence of adequate treatment options for ATTR-CM. In recent years, disease modifying therapies for ATTR-CM have been developed and approved.
- Studies have shown that ATTR-CM imposes a considerable burden on the health care system but studies of health care resource use and costs in relation to severity are lacking.

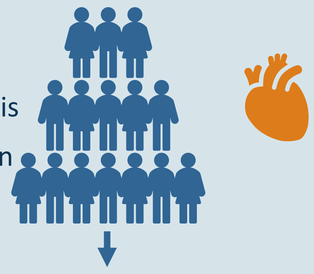
Objective

- The main objective of this study was to estimate healthcare resource use and health care costs of patients with ATTR-CM in Sweden in relation to different stages of heart failure, defined by the New York Heart Association (NYHA).
- The secondary objective was to investigate the time between the first ATTR-CM related diagnoses and the ATTR-CM diagnosis.

Methods

Study design
- Observational cross-sectional study based on medical record review

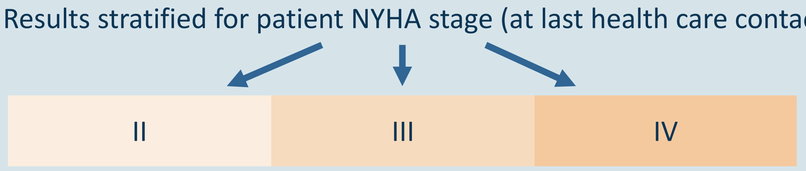
Study population
- 2 Swedish clinics
  - ✓ ATTR-CM diagnosis
  - ✓ Stratified inclusion on NYHA class



Outcomes
- Time from first cardiac diagnosis[a] to ATTR-CM diagnosis
- Health care resource use for 12 months:
  - ✓ Health care contacts (primary and inpatient/outpatient specialized care)
  - ✓ Treatments and procedures
  - ✓ Medication (hospital administered and prescribed)

Cost calculations
- Health care costs in SEK 2021 (10.15 SEK=1 EUR) based on resource use and official Swedish price lists

Analysis
- Results stratified for patient NYHA stage (at last health care contact)



[a] *defined as the following diagnoses: heart failure, sick sinus syndrome, bradycardia, pacemaker, aortic valve disease/transcatheter aortic valve implantation (TAVI), atrial fibrillation and AV-block*

Conclusions

- Health care resource use and healthcare costs increased considerably with higher degree of ATTR-CM severity.
- The diagnostic trajectory of ATTR-CM patients in our study is characterized by a diagnostic delay of several years from first cardiac related diagnoses.
- This study underlines the importance of increased disease awareness, earlier diagnosis, appropriate care, and treatment which potentially can slow or prevent disease progression as all this may reduce the disease burden both for patients and the health care system.

References
1. Ruberg FL, Grogan M, Hanna M, Kelly JW, Maurer MS. Transthyretin Amyloid Cardiomyopathy: JACC State-of-the-Art Review. J Am Coll Cardiol. 2019;73(22):2872-91
2. Lindmark K, Pilebro B, Sundström T, Lindqvist P. Prevalence of wild type transtyrethin cardiac amyloidosis in a heart failure clinic. ESC Heart Fail. 2021;8(1):745-9.

Results

Patient characteristics

	At diagnosis N=38	At the last contact N=38
Men, n (%)	34 (89)	34 (89)
Age, mean (SD), median (IQR)	77.7 (5.5) 76.5 (74;81)	80.7 (4.9), 80.5 (78;83)
Years with diagnosis, mean (SD), median (IQR)	-	3.0 (1.8) 2 (2;4)
NYHA classification, n (%)		
- II	14 (37)	7 (18)
- III	20 (53)	20 (53)
- IV	0	4 (11)
- No information	4 (10)	7 (18)

- Mean time (SD) from cardiac related diagnoses prior to ATTR-CM diagnosis (before or the same year) of 3.5 (3.1) years indicates diagnostic delay (n=32).

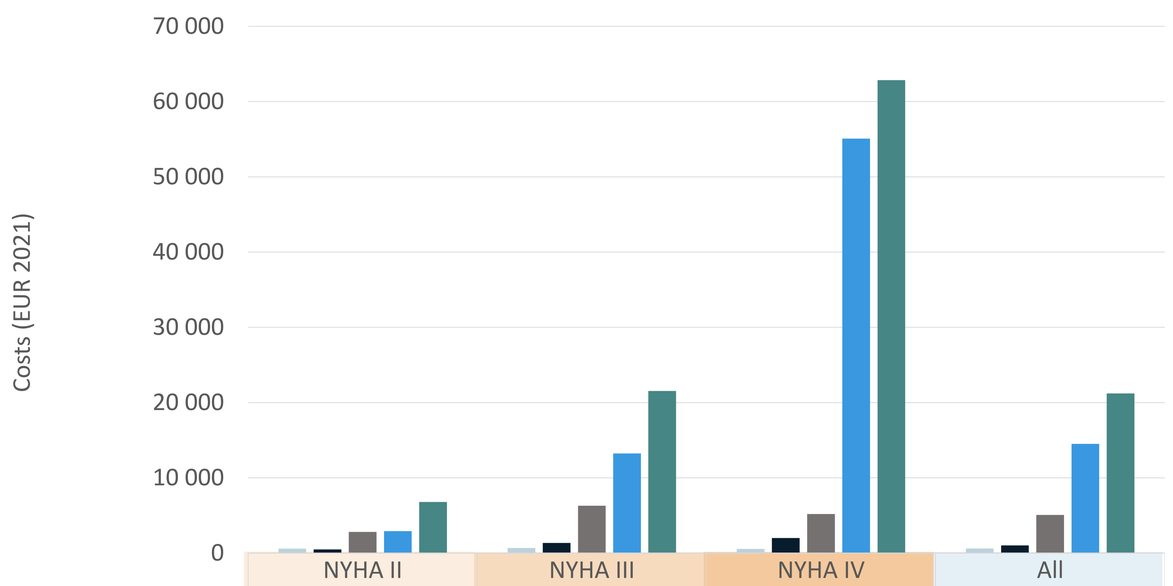
Health care resource use (per patient over 12 months)

	n	NYHA II (n=7)	NYHA III (n=20)	NYHA IV (n=4)	All (N=38)
		Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Inpatient care stays	24/38	1.1 (1.2)	1.4 (1.6)	9 (7.7)	2.1 (3.5)
- Inpatient care days		2.3 (2.6)	7.8 (12)	47 (35)	11 (19)
Specialist outpatient care contacts[a]	37/38	8.3 (6)	11 (6.9)	11 (4.2)	10 (6.6)
Primary care contacts[a]	26/38	3.4 (3.8)	7.2 (17)	11 (13)	5.7 (13)

[a] *visits and phone/video consultations*

- An increase in used procedures was observed, largely represented by more drainage of pleural effusion among patients in the more severe stages.
- During the 12-month period, 92% of the patients had been prescribed diuretics, 63% novel oral anticoagulants (NOAC), 53% betablockers, 34% ACE inhibitors and 11% diflunisal at some time.

Health care costs, EUR 2021 (mean per patient over 12 months)



	NYHA II n=7	NYHA III n=20	NYHA IV n=4	All n=38
Drugs	589	684	563	602
Primary care	479	1 346	2 009	1 026
Specialist outpatient care	2 806	6 290	5 198	5 070
Inpatient care	2 911	13 232	55 086	14 518
Total	6 786	21 552	62 856	21 216

- The total health care cost during the 12-month period was approximately 21 000 EUR per patient. Drugs contributed to less than 5%, primary care to around 5%, specialist outpatient care to 25% and inpatient care to 70% of total costs.
- A trend of higher use/costs with increasing NYHA stages was mainly due to an increase in inpatient care. The cost of inpatient care accounted for 43%, 61% and 88% of total costs, respectively, in NYHA stage II, III and IV.

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