THE REAL WORLD EVIDENCE OF CHRONIC HEART FAILURE: FINDINGS FROM 41,413 PATIENTS OF THE ARNO DATABASE

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BACKGROUND

- HF is a major public health issue that affects as many as 23 million people worldwide.
- HF is associated with a high burden of mortality, morbidity and increasing healthcare costs.
- Patients with HF included in RCTs are selected on the basis of eligibility criteria and do not fully represent the real world population of patients followed in clinical practice.
- Patients enrolled in specialty registries also maintain a certain level of selection because most of them are enrolled in cardiology wards only (often of high quality of care standards).

AIMS

- The purpose of this study is to have a more representative picture of the clinical epidemiology of patients with HF, analyzing a database of 5 Italian local health authorities including nearly 2,500,000 subjects.
- Further, the incidence and causes of re-hospitalizations and the costs due to HF have been evaluated.

METHODS

DATA SOURCE

- Analysis for the retrospective observational study were carried out from the ARNO CardioVascular Observatory (http://osservatorioarmon.cineca.org), a population-based database.
- ARNO Observatory routinely collects and integrates Italian National Health System (INHS) administrative data for each single patient:
  - patient demographics
  - outpatient drug prescriptions
  - hospital discharges
  - imaging and lab tests prescriptions
  - Demographic information were anonymised, according to Italian rules on the protection of privacy.

HOSPITALIZATIONS

- Occurrence of re-hospitalizations (% on the total cohort of patients with HF) was analyzed according to the following indicators:
  - cardiovascular and non-cardiovascular causes of hospitalization
  - days of hospital admission
  - in-hospital all-cause mortality
- The assessment was performed both for ordinary and daily admissions and on hospitalizations in the different hospital wards (Cardiology, Internal Medicine or Others).

HEALTH CARE COSTS

- Patients were evaluated for costs during the 1 year follow-up period from the National Health Service (NHS) perspective.
- Costs items considered were:
  - drugs in charge to NHS (estimated based on reimbursement prices)
  - out of hospital diagnostic procedures (estimated using reimbursement tariffs)
  - hospitalizations (estimated using DRGs-TUC 2008)
- The mean cost was calculated per patient per year
- on the overall cohort followed-up from 1st January 2008 to 31st December 2012

RESULTS

ADMISSION WARDS FOR ACUTE HEARTH FAILURE PATIENTS

- 1.8% PULMONARY UNITS
- 2.1% FUNCTIONAL RECOVERY/REAB.
- 6.3% OTHER
- 12.6% GERIATRY
- 26.6% CARDIOLOGY
- 49.7% INTERNAL GENERAL MEDICINE

<table>
<thead>
<tr>
<th>Data Source</th>
<th>2,456,739 subjects</th>
<th>Total registry population</th>
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<tbody>
<tr>
<td></td>
<td>56,059 (2.2%)</td>
<td>Cohort of patients admitted for HF</td>
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<td>41,413 (76.6%, 1.7% of total population)</td>
<td>Patients with HF discharged alive and prescribed with at least one HF drug during 1 year follow-up</td>
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<td>21,282 (51.4%)</td>
<td>Females</td>
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<tr>
<td></td>
<td>20,131 (48.6%)</td>
<td>Males</td>
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\[ HF = heart failure \]

CONCLUSIONS

- The characteristics of patients with HF of a general population are largely different from those of patients included in specialty registries or RCTs.
- The re-hospitalization rate of patients with HF is extremely high and frequently due to a non-cardiovascular causes.
- The yearly cost for a patient with HF is high and mainly driven by hospitalizations, the cost for drugs accounting for no more than 10% of the total costs.

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