Healthcare Resource Consumption and Direct Costs of Patients Newly Diagnosed with Acute Myeloid Leukemia from a Large Italian Administrative Database

EPH137

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BACKGROUND AND AIMS

Acute myeloid leukemia (**AML**) is a malignant and heterogeneous disorder of hematopoietic stem cell. Clinical recommendations are still mostly based on findings from clinical trials conducted on patients younger and fitter than the real-world community, making it difficult to contextualize them in the real practice.

AIMS. To assess the resource consumption and direct costs of the healthcare reimbursed by the Italian National Health Service (SSN) for patients newly diagnosed with AML, treated and untreated with chemotherapy (**CHT**).

METHODS

Observational retrospective analysis, performed through the **Fondazione Ricerca e Salute (ReS) database**

Identification of patients **newly diagnosed with AML** between 1st January and 31st December **2018**

- Patients aged ≥18 y.o.
- At least one hospital discharge form with primary/secondary diagnosis of AML (ICD-9-CM code: 205.0x, 206.0x, 207.0x, 207.2x) – **index date**
- During **12 months before index date**, absence of:
  - Hospitalization with primary/secondary diagnosis of AML
  - CHT session in hospital, local outpatient specialist care, pharmacy settings
- **Exclusion** of patients diagnosed with other lymphatic and hemopoietic tissue tumors

Analyses

- **12 months following index date**: CHT session and allogeneic stem cell transplantation (allo-SCT)
- **At baseline** (index date + 5-year look-back period): sex, age, comorbidities of interest
- **2 years of follow-up from index date**: overall survival (Kaplan Meier curves compared by log-rank test), concomitant drugs, hospitalizations, local outpatient specialist services and integrated healthcare direct costs charged to the SSN

RESULTS

ReS population in 2018: **4,809,005 inhabitants**

Patients with 5-year look-back available and aged ≥18 y.o.: **4,024,578 inhab. (83.7%)**

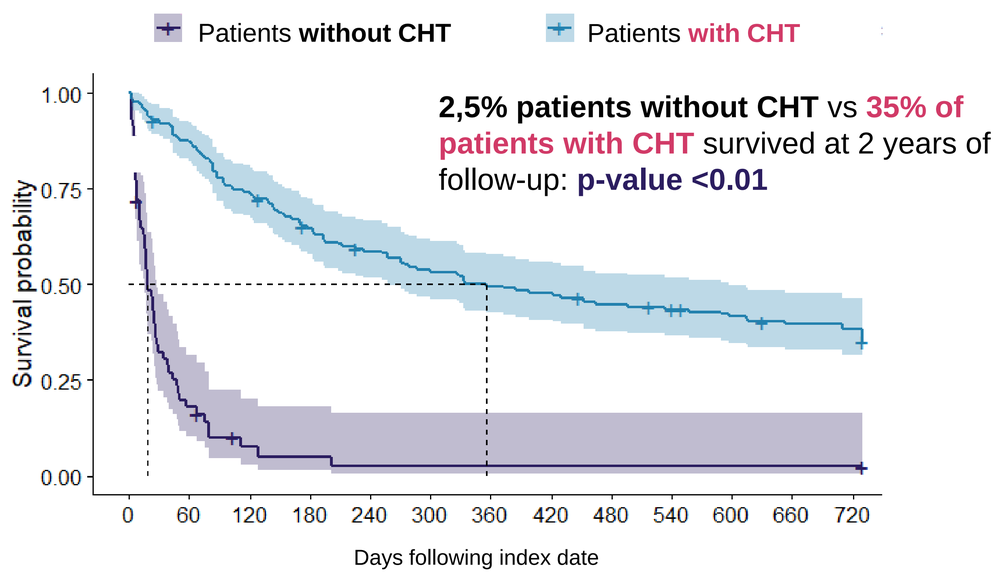
Patients **newly diagnosed with AML in 2018**, after exclusion of those diagnosed with other lymphatic/hemopoietic tumors (n=12):**228 (5.7 per 100,000 adult inhab.)**
Females: 43.4%; Mean age±SD: 69±16

Patients **w/o CHT** for 1 year follow-up: **57 (25,0%)**
F: 45.6%; Mean age: 77±14

Patients **with CHT** for 1 year follow-up: **171 (75,0%)**
F: 42.7%; Mean age: 66±15

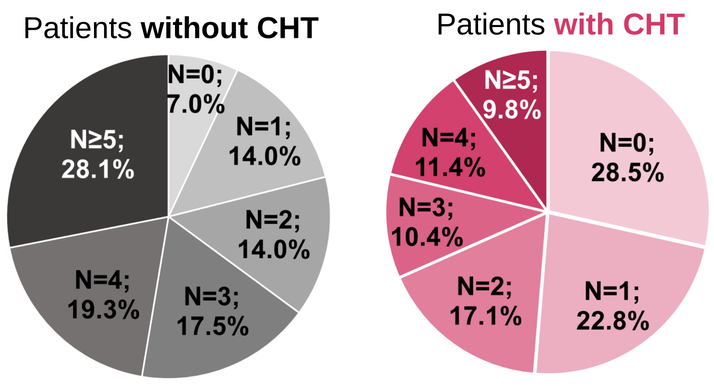
Patients **with allo-SCT**: **32**
Mean age: 50±14

2-year **overall survival**



Patients (%) with **comorbidities** of interest during 5-year look-back period

% patients by number of comorbidities



Comorbidities of interest	Pts **w/o CHT** (N_1=57) n; n/N%	Pts **with CHT** (N_2=171) n; n/N%
Arterial hypertension	43; 75.4	107; 62.6
Chronic airway diseases	26; 45.6	46; 26.9
Dislypidemia	20; 35.1	41; 24.0
Cardiac arrythmias	18; 31.6	28; 16.4
Heart failure	17; 29.8	9; 5.3
Chronic kidney disease	14; 24.6	11; 6.4
Depression	13; 22.8	18; 10.5
Diabetes	12; 21.1	36; 21.1
Coronary artery diseases	12; 21.1	19; 11.1
Cerebrovascular diseases	12; 21.1	11; 6.4
Chronic liver diseases	6; 10.5	16; 9.4
Thyroid diseases	5; 8.8	26; 15.2
Inflammatory bowel diseases	0; 0.0	2; 1.2

Annual healthcare direct costs				
Administrative healthcare database	1st follow-up year (N=228)		2nd follow-up year (N=83)	
	Mean per capita expenditure	% on total expenditure	Mean per capita expenditure	% on total expenditure
Pharmaceuticals	€ 3,560	**7.8**	€ 7,236	**24.6**
Hospitalizations	€ 41,407	**91.1**	€ 21,408	**72.7**
at index date - overnight	€ 13,876	**30.5**	-	**-**
at follow-up - overnight	€ 24,997	**55.0**	€ 19,304	**65.5**
at follow-up - daily	€ 2,534	**5.6**	€ 2,104	**7.1**
Local outpatient specialist care	€ 508	**1.1**	€ 808	**2.7**
Total	**€ 45,475**	100.0	**€ 29,452**	100.0

Pharmaceuticals (most supplied drugs among those reimbursed by the SSN)	1st follow-up year (N=228) N; n/N%	2nd follow-up year (N=83) N; n/N%
Antibiotics for systemic use	174; 76.3	68; 81.9
Antiacids	160; 70.2	65; 78.3
Antimycotics for systemic use	111; 48.7	40; 48.2
Antivirals for systemic use	98; 43.0	48; 57.8
Total	**201; 88.2**	**79; 95.2**

Hospitalizations (first 4 primary diagnosis)	1st follow-up year (N=228) N; n/N%	2nd follow-up year (N=83) N; n/N%
Acute myeloid leukemia	96; 42.1	23; 27.7
Unspecified procedures and aftercare	51; 22.4	10; 12.0
Aplastic anemia	30; 13.2	4; 4.8
Organ/tissue transplantation	12; 5.3	-
Total	**148; 64.9**	**40; 48.2**

Local outpatient specialist care (first 3 outpatient services)	1st follow-up year (N=228) N; n/N%	2nd follow-up year (N=83) N; n/N%
Laboratory test	162; 71.1	56; 67.5
Specialist examination (general)	117; 51.3	49; 59.0
Diagnostic imaging - chest	36; 15.8	20; 24.1
Electrocardiogram	31; 13.6	14; 16.9
Total	**179; 78.5**	**66; 79.5**

CONCLUSIONS

This analysis of a large database of Italian administrative healthcare data, despite the high loss to follow-up, shows a **substantial burden on the SSN** in terms of healthcare resource consumption and direct costs of patients older than those included in clinical trials.

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