Multiple myeloma (MM) is considered as an incurable hematologic disease. The annual number of diagnoses of MM remains stable but trends toward increasing. The French National Health Insurance databases provide a valuable source of data to further study the therapeutic management of MM.

Methods

This is a retrospective observational cohort study of MM patients identified through SNDS from 2014 to 2019. To identify patients with MM, a published algorithm was used as a base and was expanded to consider recent evolutions of MM therapeutic management. The rates were standardized using the age distribution to allow international comparison. Treatment lines were re-constructed through ATLAS, an artificial intelligence algorithm adapted on the Smith-Waterman alignment sequence.

Inclusion criteria

Adult patients affiliated to the General health insurance scheme (covering around 76% of the French population) were included if they presented either:

- a hospital record with MM diagnosis (ICD-10 C90*), or
- a Long-Term Disease (LTD) status with MM diagnosis (ICD-10 C90*), or
- a treatment with lenalidomide or thalidomide with at least 2 protein electrophoresis from urine or blood sample within 4 months. It is also interesting to note that this proportion increases with the years. The presence of LTD status was the first solely MM information for only 850 (14%) patients. The other patients (N= 3410 ; 8.4%) had combined MM information.

Exclusion criteria

- Patients with only ICD-10 C90.1/C90.2/C90.3 and not treated during the follow-up,
- Patients with no hospital stay for MM and with a hospital stay for another reason.

Results

The year 2019 should be interpreted with caution. We are missing some incident patients as 2020 year is requested to identify patients with MM, a published algorithm was used as a base and was expanded to consider recent evolutions of MM therapeutic management. The rates were standardized using the age distribution to allow international comparison. Treatment lines were re-constructed through ATLAS, an artificial intelligence algorithm adapted on the Smith-Waterman alignment sequence.

Conclusions

This study expands existing epidemiological data on MM patients in France and is the first to present recent nationwide results by line of treatment. Growing prevalence and incidence rates of MM are in accordance with the estimations from French network of cancer registries confirming that the French health insurance databases are a valuable source of data to further study the therapeutic management of MM.