Trends of incidence, mortality, and survival of multiple myeloma in Switzerland between 1994 and 2013

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ABSTRACT

Background: Treatment of multiple myeloma has changed considerably over the last two decades with remarkable reduction in mortality rates in clinical trials and in population-based studies. Since health care systems and patient management differ between countries, population-based data from cancer registries with high coverage may provide further insight into real-life achievements and unmet needs. We report on the first population-based nation-wide study of incidence, mortality and survival of multiple myeloma in Switzerland covering the era of autologous stem cell transplantation and the first proteasome inhibitors and immunomodulatory drugs.

Methods: We performed a retrospective registry study with data from the National Institute for Cancer Epidemiology and Registration (NICER) database in Switzerland from 1994 to 2013.

Results: We identified 5770 patients with multiple myeloma. Incidence has increased from 419 new cases per year in 1994–1998 to 557 new cases per year in 2009–2013 while the age-adjusted incidence rate remained stable at 4.7–5.0 per 100’000 person-years. Five- and 10-year relative survival increased from 32.6% (95%CI 29.3–36.0) and 17.8% (95%CI 14.9–21.0) in 1994–1998 to 46.4% (95%CI 43.3–49.3) and 25.0% (95%CI 21.9–28.3) in 2009–2013.

Conclusion: The increase in incidence can be attributed to demographic changes. There is a trend to longer survival in all age groups with substantial increase in myeloma patients aged less than 75 years and only minimal changes in older persons.

1. Introduction

Multiple myeloma is one of the most frequent haematological malignancies. During the last 20 years advances in treatment had a marked impact on survival of patients with myeloma. Since the introduction of melphalan for myeloma treatment in the 1960s [1], no treatment has shown further improvement in survival rates until the 1990s [2]. Thereafter, high-dose chemotherapy combined with autologous stem cell transplantation [3–6] and new drugs, including thalidomide [7–9], bortezomib [10,11] and lenalidomide [12–14] have been introduced and significant survival advantages of these therapies compared to former standard treatment have been demonstrated in randomised controlled trials. Furthermore, bisphosphonates [15–17] have shown anti-myeloma activity and a survival benefit in myeloma patients. In addition, general improvements in supportive care, for instance, better transfusion support and anti-infective treatment, may have improved outcome even if there were no specific prospective trials for survival outcome in myeloma patients.

Since experimental prospective clinical trials are confined to selected myeloma patients, their results are not readily transferable to the real-life setting. In recent years, several population-based epidemiological studies have shown significant improvements in survival for myeloma patients in different countries [18–21]. Nevertheless, access to treatment, health care systems, demographic patterns and patient management differ between regions and may have an impact on incidence and mortality rates. Therefore, we think it is important to complement experimental trials and observational studies from selected patient groups with population-based nation-wide epidemiological data.