Geriatrics and haematological malignancies: is comprehensive geriatric assessment a useful tool?

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Treating elderly with haematological malignancies is a challenging task for all those involved. The age- and gender-specific incidence rates increase dramatically over the age of 65 or 70 for Acute Myelogenous Leukaemia (AML), Myelodysplastic Syndromes (MDS), Non-Hodgkin's Lymphoma (NHL), Multiple Myeloma (MM), and other malignant diseases.

The AML incidence reaches 12 to 25 for respectively female and male patients in the age brackets 75 to 79 and increases further at even older ages. The incidence of MDS reaches 50 at the age brackets 80 to 90. The Non-Hodgkin's Lymphoma rate peaks at 60 to 90 for females and males in the age bracket 75 to 79; for Myeloma the same incidences are 30 and 50 respectively. At all ages, patients suffering from these diseases, and specifically if the underlying disorder is aggressive, will benefit from a significantly better overall survival if the treatment results in a durable remission. However, to obtain a remission we still need aggressive chemotherapies, in most instances.

The poor prognosis of older haematological patients is determined by disease-related factors (e.g. unfavourable karyotype, antecedent haematological disorder, Multi Drug Resistance genotype expression, or single gene mutations as in AML) and equally by patient-related factors (advancing age, poor performance status, comorbidities, poor organ functions).

Comorbidity scales (e.g. Charlson Comorbidity Index – CCI) have been studied, assessing outcome and correlation with the comorbidities, but only rarely in haematology [1,2]. The CCI has been validated in the myelodysplastic syndromes, with significant impact on overall survival and event-free survival, even in patients with an International Prognostic Scoring System (IPSS) low risk and intermediate-one risk and previously shown in patients in the intermediate-one and -two risk categories [3]. The Haematopoetic Cell Transplantation Comorbidity Index (HCT-CI) has been validated outside of the context of transplantation [4] and recently has been studied in large cohorts of patients with MDS, leading to a MDS specific Comorbidity Index (MDS-CI) with significant impact on non-leukaemic death as an outcome. In this example the potential of combined use of the disease-related Prognostic Scoring System and the Comorbidity Index is helpful in clinical decision making in the elderly, provided patients are given reliable information on life expectancy, risk of leukaemic transformation and non-leukaemic death [5].

Comprehensive Geriatric Assessment (CGA) measures include the Modified Mini-Mental Status Exam (3MS), Center for Epidemiologic Studies Depression Scale (CES-D), Distress thermometer, Pepper Assessment Tool of Disability ([PAT-D], includes self-reported activities of daily living (ADL), instrumental activities of daily living (IADL), and mobility questions), Short Physical Performance Battery ([SPPB], includes timed 4-meter walk, chair stands, standing balance), and grip strength [4].

CGA can detect impairments among older adults receiving chemotherapy for AML. The percentage of patients with impairment ranged between 15% (poor performance status – cognitive impairment) and 50–60% (high distress score – impairment in objective physical function) in a small cohort of patients aged 60 to 82 [6].

The conflict between diseases that are more resistant to treatment and patients that are less resistant to its toxicities highlights the need for newer approaches in the elderly. Among treatment options for older adults with haematological malignancies a number of novel and investigational approaches hold some promise [4]. Although in fit patients chemotherapy should be used, in the unfit or even frail patients the treatment strategies show a paradigm shift towards more targeted (e.g. epigenetic disorders directed) therapies, among others. Examples include IMIDS such as lenalidomide and pomalidomide, DNA hypomethylating agents such as azacitidine, HDAC inhibitors such as panobinostat, tyrosine kinase inhibitors such

as ponatinib, new monoclonals such as ofatumomab, etc. Only in recent years have clinical research programmes been shifting slowly towards inclusion of patients above the age of 60, 70 or even 80.

The creation of an individualised intervention plan after the process of analysing and linking patient characteristics together by a multidisciplinary team is mandatory. CGA will help to determine which patient is frail or fit, to institute standard therapy for the fit, and in frail patients determine a possible treatment approach after informed consent by the patients themselves. [7]

As age is a continuous variable, a specific age limit should be avoided at all times when discussion treatment options.

Conflict of interest statement

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