Rev Med Hosp Gen Méx. 2016;xxx(xx):xxx–xxx

REVISTA MÉDICA DEL
HOSPITAL GENERAL
DE MÉXICO
www.elsevier.es/hgmx

ORIGINAL ARTICLE

Palliative prognostic index and Charlson comorbidity index as predictors of mortality in acute lymphoblastic leukaemia patients who are candidates for palliative care

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Received 8 September 2016; accepted 27 September 2016

KEYWORDS
Palliative care;
Prognosis;
Precursor cell lymphoblastic leukaemia-lymphoma;
Survival

Abstract
Objective: To establish whether the palliative prognostic index (PPI), the Charlson comorbidity index (CCI) or other factors are predictors of survival for patients with ALL undergoing palliative care.
Materials and methods: Retrospective cohort study of patients diagnosed with ALL undergoing palliative care. We analysed variables at the time of diagnosis (age, WBC count, and risk type), chemotherapy regimens received, PPI, CCI and transfusion requirements at time palliative care was started.
Results: We studied 32 patients with a mean age of 37 (18–75) years. Fourteen cases had a PPI = 0 (43.8%). 62.5% ($n = 20$) with a CCI > 3 had high odds of dying within 10 years. The median survival was 200 days, unaffected by any of the factors analysed.
Discussion: Neither PPI, CCI, nor the other studied factors effectively predicted survival. Scales will have to be adapted or new predictive scales devised specifically for patients with ALL.

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http://dx.doi.org/10.1016/j.hgmx.2016.09.008

Please cite this article in press as: Trejo-Ayala RA, et al. Palliative prognostic index and Charlson comorbidity index as predictors of mortality in acute lymphoblastic leukaemia patients who are candidates for palliative care. Rev Med Hosp Gen Méx. 2016. http://dx.doi.org/10.1016/j.hgmx.2016.09.008

PALABRAS CLAVE
Cuidados paliativos;
Pronóstico;
Leucemia-linfoma linfoblástico de células precursoras;
Supervivencia

Índice pronóstico paliativo e índice de comorbilidad de Charlson como predictores de muerte en pacientes con leucemia linfoblástica aguda candidatos a terapia paliativa

Resumen
Objetivo: Establecer si el índice pronóstico paliativo (IPP), el índice de comorbilidad de Charlson (ICC) u otros factores son predictores de sobrevida en pacientes con LLA sometidos a terapia paliativa.
Material y métodos: Cohorte retrospectiva de pacientes con diagnóstico de LLA sometidos a terapia paliativa. Se analizaron variables al momento del diagnóstico (edad, cifra de leucocitos, tipo de riesgo), esquemas recibidos, IPP e ICC al momento de iniciar tratamiento paliativo, así como los requerimientos transfusionales.
Resultados: Se estudiaron 32 pacientes con edad promedio de 37 (18–75) años. Catorce casos obtuvieron un IPP de 0 (43.8%). El 62.5% (n = 20) con ICC >3 tenía altas probabilidades de morir en menos de 10 años. La media de supervivencia fue de 200 días, sin afectarse significativamente por ninguno de los factores analizados.
Discusión: IPP, ICC, ni otros factores predijeron efectivamente la sobrevida. Será necesario adecuar estas escalas o idear nuevas específicamente para LLA.

Introduction

Acute lymphoblastic leukaemia (ALL) is a precursor B- or T-cell lymphoproliferative cancer whose treatment requires sequential doses of chemotherapy, haematopoietic stem cell transplants, monoclonal antibodies, or immunotherapy.[1–3] Despite advances in treatment, in most trials 5-year survival is under 50%, but as 75% of cases have markers of poor prognosis, their survival is only 25%.[4] The objective to meet for all treatment regimens is to reduce the presence of cancer cells to undetectable levels, which is called complete remission (CR), and it is obtained in 80% of patients on average around the world; however 50% of individuals in CR will relapse in the first two years after treatment, mostly associated with cytogenetic alterations.[5,6] In the MRCUKALL12/ECOG 293 protocol, Fielding et al. reported that 5-year survival after a relapse is only 7%.[7] Oriol et al. also reported that the mean reported survival after a relapse was 4.5 months, with the duration of the first CR being the main good prognostic factor.[8]

It is because of these discouraging results that the need for end-of-life-care has been increasing for most haematologic cancers, but to date only 18% of patients have access to it.[9] As they behave differently from solid tumours, it is difficult to know precisely when a patient with a haematologic cancer should be considered a candidate for palliative care, either at the time of diagnosis given severe symptoms or after several treatment failures.[10,11] Strictly speaking, palliative care includes measures such as pain management and home medical assistance without the use of aggressive chemotherapy, preferring low-intensity regimens with the aim of improving quality of life.[12] Several indices have been used to assess the possibility of early death in terminal patients; the main ones are the Palliative Prognostic Score (PaP), the palliative prognostic index (PPI), and the Charlson Comorbidity Index (CCI). The latter two are the most commonly used worldwide (Table 1).[13–15] In general, the PPI takes into account clinical situations (dyspnoea, level of activity, oral tolerance, oedema, and delirium) while the CCI takes into account only the patient's comorbidities.[16,17] There is little research addressing the topic of end-of-life care in particular for individuals with haematologic cancers. The study led by the group of Hui stands out, as they identified that this type of patient shows more admissions to the emergency department, hospitalisations, use of chemotherapy or admission to intensive care units in comparison with patients who received end-of-life care for solid tumours.[18]

In our country, the decision to use a low-intensity treatment such as palliative care is considered in the elderly, after the disease was refractory to two or more regimens, as well as in those cases where there was an express request made by the patient.[19] The main objective of this study was to analyse the impact of the PPI and CCI scores as well as other factors on the survival of acute lymphoblastic leukaemia patients who receive end-of-life care.

Methods

Study design

Observational, retrospective cohort study of ALL patients who received end-of-life care. The analysis included clinical variables at the time of diagnosis (age > 35 years, WBC count > 30×10^3 mcL^{-1}, type of risk), type of treatment (intensive or standard), number of regimens received, and PPI and CCI scores (Table 1) at the time palliative care was started. In addition the ECOG (*Eastern Cooperative Oncology Group*) score[19] at the time of diagnosis and the transfusion requirements was analysed.

Patients

Acute lymphoblastic leukaemia patients who were treated with several institutional chemotherapy regimens between

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