analesdepediatría

www.analesdepediatria.org

ORIGINAL ARTICLE

Critically ill pediatric hemato-oncology patient: What we do is what we should do?☆

Alberto García-Salido[a,*], Montserrat Nieto-Moro[a], María Isabel Iglesias-Bouzas[a], Marta González-Vicent[b], Ana Serrano-González[a], Juan Casado-Flores[a]

[a] *Unidad de Cuidados Intensivos Pediátricos, Hospital Infantil Universitario Niño Jesús, Madrid, Spain*
[b] *Unidad de Trasplante de progenitores hematopoyéticos, Hospital Infantil Universitario Niño Jesús, Madrid, Spain*

Received 21 May 2015; accepted 20 July 2015
Available online 17 November 2015

KEYWORDS
Pediatrics;
Medical oncology;
Intensive care;
Critical care;
Health care survey

Abstract
Objective: Primary objective, to describe the management and monitorization of critically ill pediatric hemato-oncology patient (CIPHO) in the Spanish pediatric intensive care units (PICU). Secondary objective, through a literature review, to identify possible areas of improvement.
Material and methods: Observational transversal descriptive study. An anonymous web-based survey was sent to 324 Spanish pediatric intensivists from April 2011 to May 2011. None of them were pediatric residents.
Results: The survey was answered by 105 intensivists, 59/105 always agreed on their treatment with the oncologist. In case of hemodynamic instability, non-invasive blood pressure monitoring is always done by 85/105 and almost always optimized by intra-arterial measuring (85/105) and central venous pressure (70/105). If respiratory failure the use of non-invasive ventilation (NIPPV) is always (36/105) or frequently (60/105) established prior to conventional mechanical ventilation. To replace or withdraw non-invasive ventilation only 44/96 of the respondents to this question use a clinical protocol. Before the instauration of conventional mechanical ventilation the oncological prognosis is considered by 72/105. In case of acute oliguric renal failure the renal replacement techniques are widely used (74/105). The withdrawal of sustaining life support is frequently discussed (75/103) and agreed with the oncologist (91/103) and caregivers (81/103).
Conclusions: In our study, despite there not being a defined standard-of-care, the respondents showed similar therapeutic and monitorization choices. The use of NIPPV as first respiratory assistance is extended. Prospective, observational and multicenter studies should be developed to establish the results of this management in this population.

☆ Please cite this article as: García-Salido A, Nieto-Moro M, Iglesias-Bouzas MI, González-Vicent M, Serrano-González A, Casado-Flores J. Paciente crónico oncohematológico, ¿hacemos lo que deberíamos hacer? An Pediatr (Barc). 2016;85:61–69.

* Corresponding author.
E-mail address: citopensis@yahoo.es (A. García-Salido).

PALABRAS CLAVE
Pediatría;
Oncología médica;
Cuidados intensivos;
Cuidados paliativos;
Encuesta sanitaria

Paciente crónico oncohematológico, ¿hacemos lo que deberíamos hacer?

Resumen
Objetivo: Objetivo primario, definir el tratamiento y la monitorización del niño crítico con enfermedad hemato-oncológica en las unidades de cuidados intensivos españolas. El objetivo secundario fue, tras una revisión de la literatura, contextualizar el enfoque obtenido y detectar posibles puntos de mejora.
Material y métodos: Estudio observacional, descriptivo y transversal. Se envió en el periodo abril del 2011-mayo del 2011 una encuesta online a 324 intensivistas y adjuntos de pediatría registrados en la Sociedad Española de Cuidados Intensivos Pediátricos.
Resultados: Se obtienen 105 respuestas globales, 59/105 indicaron acordar el tratamiento con el oncólogo. Ante hipotensión, taquicardia y requerimiento de inotrópicos, 85/105 realizan siempre monitorización no invasiva de presión arterial asociando además medición intraarterial (85/105) y casi siempre presión venosa central (70/105). Ante dificultad respiratoria, se instaura siempre (36/105) o frecuentemente (60/105) ventilación no invasiva. De forma previa a iniciar ventilación mecánica convencional, 72/105 consideran el pronóstico global del paciente. Ante fallo renal agudo oligúrico, las técnicas de depuración extrarrenal son ampliamente utilizadas (74/105). En caso de mal pronóstico, la adecuación del tratamiento es considerada de forma frecuente (75/103) y conjunta con el oncólogo (91/103) y la familia (81/103).
Conclusiones: Se observa gran similitud en las respuestas a pesar de que el manejo de este tipo de pacientes no está estandarizado. En caso de dificultad respiratoria, el uso de ventilación no invasiva como primera asistencia está ampliamente extendido. El desarrollo de futuros estudios observacionales prospectivos y multicéntricos permitiría conocer los resultados derivados de este enfoque.

Introduction

Nowadays there isn't any standard-of-care of critically ill pediatric hemato-oncology patient (CIPHOP).[1,2] In case of pediatric intensive care unit (PICU) admission the treatment and monitoring protocols applied are not different from those used in children without an oncological disease.[3]

Critically ill pediatric hemato-oncology patient survival has improved in recent years[4] thanks to a better management of their complications and the evolution and development of new therapies.[1,2,4] Unfortunately, the PICU mortality and morbidity are still important and discussions about which is the better therapeutic option in each moment, or when to withdraw the therapies initiated are common.[5]

There are nearly 1100 new cases of pediatric cancer each year in Spain.[6] There are no institutions exclusively dedicated to the pediatric hemato-oncology patient (PHOP). These patients are treated in 47 hospitals with different characteristics and equipment.[3,6] This heterogeneity, despite the 80% of global survival, maybe implies an obstacle to homogenize and optimize the therapies applied. The aim of this study is to describe the management and monitorization of CIPHO in the Spanish PICUs. Later, through a short literature review, a discussion about the questions obtained is done.

Methods

Transversal, observational and descriptive study performed by a web-based survey (GoogleDoc® formulary) sent to the 324 Spanish pediatric intensivists registered in the Spanish Society of Pediatric Critical Care. No pediatric residents were included in the study. The survey, detailed in Table 1, was anonymous. It was sent to intensivists regardless of the complexity of their units and patients. The intensivists were reminded of the survey every two weeks from April 2011 to May 2011. In case of no answer the participant was not considered for the final analysis. A descriptive analysis of the answers was performed using SPSS 16.0 for Windows.

Results

The survey was answered by 105 intensivists (32% of surveyed). In their opinion the treatment applied is always (18%) or frequently (78%) appropriate to CIPHOP complexity and prognosis (Table 2).

Medical care team

The treatment and care giving decisions are made in common, if possible, by the oncologist and intensivist (56%; Table 2).

Hemodynamic monitoring

Non-invasive blood pressure measurements are always used by 80% of respondents. It is associated with intra-arterial blood pressure measurements (always by 85/105) or central venous pressure (CVP; always by 70/105 and frequently by