



ORIGINAL

Urethral catheter-related urinary infection in critical patients admitted to the ICU. Descriptive data of the ENVIN-UCI STUDY[☆]

F. Álvarez-Lerma^{a,*}, M.P. Gracia-Arnillas^a, M. Palomar^b, P. Olaechea^c,
J. Insausti^d, M.J. López-Pueyo^e, J.J. Otal^f, R. Gimeno^g, I. Seijas^h, Grupo de
Investigadores del Estudio Nacional de Vigilancia de Infección Nosocomial en UCI

^a Servicio de Medicina Intensiva, Hospital del Mar, Parc de Salut Mar, Barcelona, Spain

^b Servicio de Medicina Intensiva, Hospital de la Vall d'Hebrón, Barcelona, Spain

^c Servicio de Medicina Intensiva, Hospital de Galdakao, Vizcaya, Spain

^d Servicio de Medicina Intensiva, Hospital de Navarra, Pamplona, Spain

^e Servicio de Medicina Intensiva, Hospital General Yagüe, Burgos, Spain

^f Servicio de Epidemiología y Medicina Preventiva, Hospital Vall d'Hebrón, Barcelona, Spain

^g Servicio de Medicina Intensiva, Hospital la Fe, Valencia, Spain

^h Servicio de Medicina Intensiva, Hospital de Cruces, Spain

Received 12 December 2011; accepted 21 February 2012

Available online 27 February 2013

KEYWORDS

Urinary tract
infection;
Urinary catheter;
Critically ill patient;
ICU;
ENVIN

Abstract

Objective: To describe trends in national catheter-related urinary tract infection (CRUTI) rates, as well as etiologies and multiresistance markers.

Design: An observational, prospective, multicenter voluntary participation study was conducted from 1 April to 30 June in the period between 2005 and 2010.

Setting: Intensive Care Units (ICUs) that participated in the ENVIN-ICU registry during the study period.

Patients: We included all patients admitted to the participating ICUs and patients with urinary catheter placement for more than 24 h (78,863 patients).

Intervention: Patient monitoring was continued until discharge from the ICU or up to 60 days.

Variables of interest: CRUTIs were defined according to the CDC system, and frequency is expressed as incidence density (ID) in relation to the number of urinary catheter-patients days.

Results: A total of 2329 patients (2.95%) developed one or more CRUTI. The ID decreased from 6.69 to 4.18 episodes per 1000 days of urinary catheter between 2005 and 2010 ($p < 0.001$).

In relation to the underlying etiology, gramnegative bacilli predominated (55.6–61.6%),

[☆] Please cite this article as: Álvarez-Lerma F, et al. Infección urinaria relacionada con sonda uretral en pacientes críticos ingresados en UCI. Datos descriptivos del estudio ENVIN-UCI. Med Intensiva. 2013;37:75–82.

* Corresponding author.

E-mail address: Falvarez@hospitaldelmar.cat (F. Álvarez-Lerma).

◇ The list of participants in the Study Group on Nosocomial Infection Surveillance ICU between 2005 and 2010 (inclusive) is available in the published reports of ENVIN to which can be accessed from the web: <http://hws.vhebron.net/envin-helics/>.

PALABRAS CLAVE

Infección urinaria;
Sonda uretral;
Paciente crítico;
UCI;
ENVIN

followed by fungi (18.7–25.2%) and grampositive cocci (17.1–25.9%). In 2010, ciprofloxacin-resistant *Escherichia coli* strains (37.1%) increased, as well as imipenem-resistant (36.4%) and ciprofloxacin-resistant (37.1%) strains of *Pseudomonas aeruginosa*.

Conclusions: A decrease was observed in CRUTI rates, maintaining the same etiological distribution and showing increased resistances in gramnegative pathogens, especially *E. coli* and *P. aeruginosa*.

© 2011 Elsevier España, S.L. and SEMICYUC. All rights reserved.

Infección urinaria relacionada con sonda uretral en pacientes críticos ingresados en UCI. Datos descriptivos del estudio ENVIN-UCI

Resumen

Objetivo: Describir la evolución de las tasas nacionales de las infecciones urinarias relacionada con sonda uretral (IU-SU), así como la de sus etiologías y marcadores de multiresistencia.

Diseño: Estudio observacional, prospectivo, de participación voluntaria y multicéntrico desde el 1 de abril al 30 de junio entre los años 2005 y 2010.

Ámbito: Unidades de Cuidados Intensivos (UCI) que participaron en el registro ENVIN-UCI en el periodo de estudio.

Pacientes: Se han incluido todos los pacientes ingresados en las UCI participantes y portadores de sonda urinaria durante más de 24 horas (78.863 pacientes).

Intervención: La vigilancia de los pacientes ha sido continua hasta el alta de UCI o un máximo de 60 días.

Variables de interés: Se han definido las IU-SU siguiendo los criterios del CDC y su frecuencia se expresa como densidad de incidencia (DI) en relación al número de días de paciente-SU.

Resultados: Han presentado una o más IU-SU 2.329 (2,95%) pacientes. La DI de IU-SU ha disminuido desde 6,69 a 4,18 episodios por 1.000 días de SU desde el año 2005 al año 2010 ($p < 0,001$). En la etiología han predominado los bacilos gramnegativos (55,6-61,6%), seguido de hongos (18,7-25,2) y de los cocos grampositivos (17,1-25,9%). En el año 2010, han aumentado las cepas de *E. coli* resistentes a ciprofloxacino (37,1%) y de *P. aeruginosa* resistente a imipenem (36,4%) y ciprofloxacino (37,1%).

Conclusiones: Disminución de las tasas de IU-SU, manteniéndose la misma distribución de etiología e incrementándose la resistencia en los BGN, en especial el *Escherichia coli* y *Pseudomonas aeruginosa*.

© 2011 Elsevier España, S.L. y SEMICYUC. Todos los derechos reservados.

Introduction

Urethral catheter-related urinary tract infection (CRUTI) is one of the most frequent infections in patients admitted to the Intensive Care Unit (ICU), after ventilator associated pneumonia (VAP) and primary or vascular catheter-related bacteremia.^{1,2} In most cases the diagnosis is based on the isolation of a significant number of bacteria or fungi per milliliter of urine in patients with clinical evidence of systemic inflammatory response. The presence of signs or symptoms specific of CRUTI is less common.

The etiology of CRUTI in critical patients admitted to the ICU presents some differences with respect to the urinary infections seen in the rest of the patients admitted to hospital, due to the presence of certain pathogens both in the patient and in the surroundings, selected as a result of frequent antibiotic use.³ The increase in resistances on the part of these pathogens can condition changes in the empirical treatment of these infections. Nevertheless, the information referred to this infectious problem in critical patients is limited.

For years, the Infectious Diseases Working Group of the Spanish Society of Intensive and Critical Care Medicine and Coronary Units (*Grupo de Trabajo de Enfermedades*

Infecciosas de la Sociedad Española de Medicina Intensiva, Crítica y Unidades Coronarias, GTEI-SEMICYUC) has promoted the vigilance of infections acquired in the ICU and related to the use of medical devices. The National Study for the Vigilance of Nosocomial Infections in the ICU (ENVIN-ICU) has registered infections of this kind in Spanish ICUs since 1994.⁴ The results referred to the evolution of the CRUTI rates, the underlying etiologies, and the multiple resistance markers of the most common pathogens are described in the present study.

Patients and methods**Study design**

A prospective, multicenter, voluntary participation, observational study was carried out.

Patients

The study prospectively included all patients with a urinary catheter in place for over 24 h, admitted to the participating ICUs between 1 April and 31 June corresponding to the

Download English Version:

<https://daneshyari.com/en/article/3114247>

Download Persian Version:

<https://daneshyari.com/article/3114247>

[Daneshyari.com](https://daneshyari.com)