69 CONGRESO NACIONAL
SOCIEDAD ESPAÑOLA DE FARMACIA HOSPITALARIA

A CORUÑA
17-19 OCT 24

ATENCIÓN FARMACÉUTICA INTEGRAL AL PACIENTE PALIATIVO Y AL FINAL DE LA VIDA

PROA EN EL PACIENTE PALIATIVO Y AL FINAL DE LA VIDA

Aurora Fernandez Polo
Hospital Universitari Vall d'Hebron

sefh
Sociedad Española de Farmacia Hospitalaria

Los pacientes de cuidados paliativos son especialmente vulnerables a las infecciones:

- Supresión de la función inmunológica después de quimioterapia (cáncer avanzado)
- Comorbilidades
- Debilidad funcional enfermedades complejas

- Objetivo de los tratamientos farmacológicos de cuidados paliativos → Mitigar, suavizar o atenuar el dolor de un enfermo

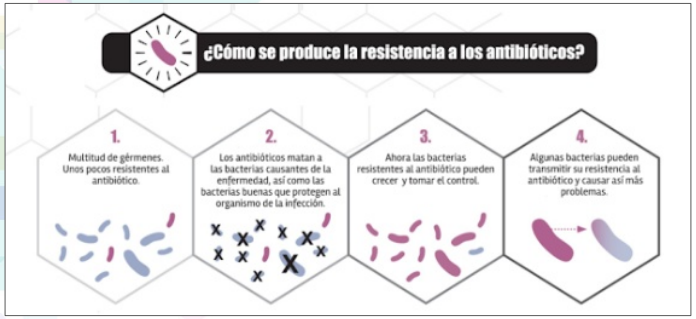
Cambio objetivo "*el curar*" sino el "*cuidar*" al paciente

- Objetivo de los antibióticos → Prevenir o curar enfermedades infecciosas

Antibióticos en cuidados paliativos:

¿curación infección o mejora de la sintomatología?

Presión de profesionales/familiares "*do something*"


¿Cómo se produce la resistencia a los antibióticos?
1.
Multitud de gérmenes. Unos pocos resistentes al antibiótico.
2.
Los antibióticos matan a las bacterias causantes de la enfermedad, así como las bacterias buenas que protegen al organismo de la infección.
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Ahora las bacterias resistentes al antibiótico pueden crecer y tomar el control.
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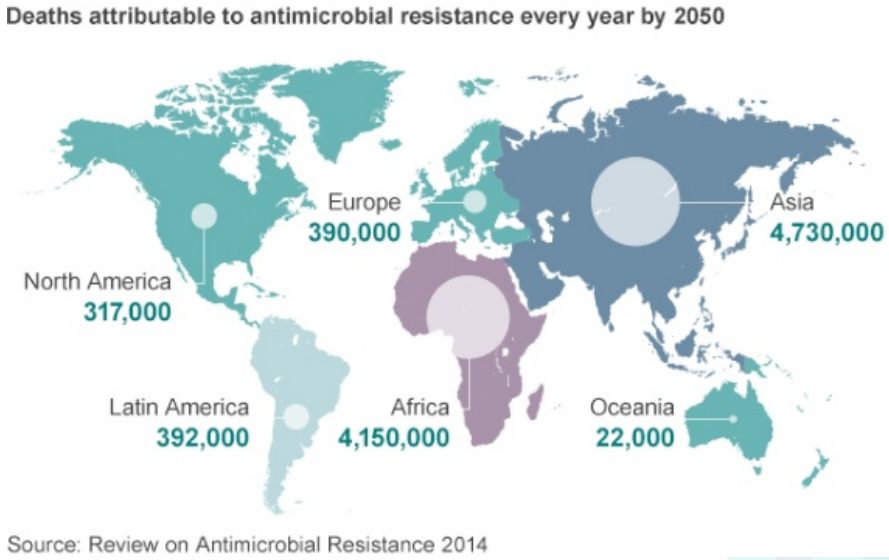
Algunas bacterias pueden transmitir su resistencia al antibiótico y causar así más problemas.


Deaths attributable to antimicrobial resistance every year by 2050
Europe
390,000
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4,150,000
Oceania
22,000
Source: Review on Antimicrobial Resistance 2014

Utilización antibióticos en pacientes paliativos

A Nationwide Analysis of Antibiotic Use in Hospice Care in the Final Week of Life

Jennifer S. Albrecht, BA, Jessina C. McGregor, PhD, Erik K. Fromme, MD, MCR, David T. Bearden, PharmD, and **Jon P. Furuno, PhD**
Department of Epidemiology and Public Health (J.S.A.), University of Maryland School of Medicine, Baltimore, Maryland; Department of Pharmacy Practice (J.C.M., D.T.B., J.P.F.), Oregon State University/Oregon Health & Science University College of Pharmacy, Portland, Oregon; and Division of Hematology and Medical Oncology (E.K.F.), Knight Cancer Institute, and Center for Ethics and Healthcare (E.K.F.), Oregon Health & Science University, Portland, Oregon, USA

Abstract

Context—Antibiotic prescribing in hospice patients is complicated by the focus on palliative rather than curative care and concerns regarding increasing antibiotic resistance.

Objectives—To estimate antibiotic use in a national sample of hospice patients and identify facility and patient characteristics associated with antibiotic use in this population.

Methods—This was an analysis of data from the 2007 National Home and Hospice Care Survey, a nationally representative sample of U.S. hospice agencies. We included data from 3884 patients who died in hospice care. The primary outcome measure was prevalence of antibiotic use in the last seven days of life. Diagnoses, including potential infectious indications for antibiotic use, were defined using International Classification of Diseases, Ninth Revision (ICD-9) codes. Chi-square tests and *t*-tests were used to quantify associations of patient and facility characteristics with antibiotic use.

Results—During the last seven days of life, 27% (95% confidence interval [CI] 24%, 30%) of patients received at least one antibiotic and 1.3% (95% CI 0.7%, 2.0%) received three or more antibiotics. Among patients who received at least one antibiotic, 15% (95% CI 10%, 20%) had a documented infectious diagnosis, compared with 9% (95% CI 7%, 11%) who had an infectious diagnosis but received no antibiotics.

Conclusion—In this nationally representative sample, 27% of hospice patients received an antibiotic during the last seven days of life, most without a documented infectious diagnosis. Further research is needed to elucidate the role of antibiotics in this patient population to maintain palliative care goals while reducing unnecessary antibiotic use.

Encuesta Nacional (US) de Cuidados Paliativos de 2007

- 4733 pacientes
- 27% recibieron antibiótico 7 días final de vida:
  - 49% macrólidos
  - 26% fluoroquinolonas

Perfil de paciente: 34% EPOC ; 23% cáncer; 18% demencia, 16% debilidad, 11% enfermedades renales y hepáticas, 6% enfermedad cerebrovascular.

- 15% infección documentada (códigos de diagnóstico primarios o secundarios de la CIE-9)

Utilización antibióticos en pacientes paliativos

SECPAL

Medicina Paliativa

Publicación Oficial Sociedad Española de Cuidados Paliativos

Artículo Aceptado para su pre-publicación / Article Accepted for pre-publication

Título / Title:
Estudio retrospectivo del uso de antimicrobianos en pacientes que fallecen en un servicio de oncología / Antibiotic therapy at the end of life in cancer patients

Autores / Authors:
Andrea Sesma[1], Mara Cruellas[2], Marta Gascón Ruiz[3], Natalia Alonso Marin[3], Maitane Ocáriz Díez[3], María Zapata García[3], María Zurera Berjaga[3], Alba Moratiel Pellitero[3], Inés Ruiz Moreno[3], María Álvarez Alejandro[3], Rodrigo Lastra del Prado[3], Jose Ramón Paño Pardo[4]
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DOI: 10.20986/medpal.2021.1265/2021

España_ Unicéntrico (Hospital Clínico Universitario Lozano Blesa_Zaragoza) 2019

- 101 pacientes (estadio IV- 63%progresión)
- 47,5 % de los pacientes no recibían tratamiento antineoplásico activo en el momento del ingreso.
- 58,4 % recibieron tratamiento antibiótico durante su estancia hospitalaria (92 % durante la última semana de vida).

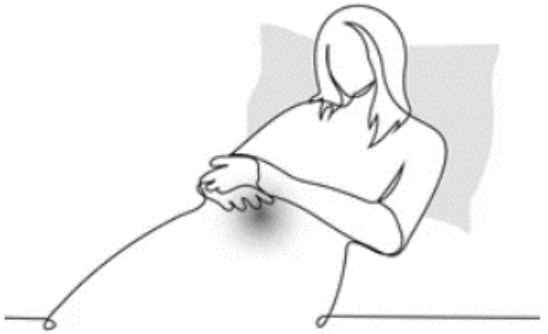
Casi el **90 %** de los pacientes hospitalizados con cáncer avanzado son tratados con antimicrobianos durante **la semana anterior a su muerte** y cerca de 2/3 de los pacientes reciben antimicrobianos **24h antes de iniciar la sedoanalgesia paliativa.**

Antibiótico mayoritario**: piperacilina-tazobactam**

Vaughan L, Duckett AA, Adler M, Cain J. Ethical and clinical considerations in treating infections at the end of life. J Hosp Palliat Nurs. 2019;21:110-5

Es difícil predecir si el uso de antimicrobianos aportará mejora sintomática, influirá en la supervivencia

- Hay evidencia controvertida en la mejora de supervivencia
- Alivio sintomático podría darse en pacientes con infecciones del **tracto urinario**, pero el control sintomático es más difícil en bacteriemias, infecciones respiratorias e infecciones de piel y partes blandas.
- La ausencia de mejoría clínica puede ser por las com asociadas o la propia enfermedad



Merel SE, Meier CA, Mckinney CM, Pottinger PS. Antimicrobial use in patients on a comfort care protocol: A retrospective cohort study. J Palliat Med. 2016;19:1210-4

Inconvenientes administración antibióticos:

- Presión antibiótica: **aumento resistencias**
- Mayor solicitud de pruebas diagnósticas: **aumento de actitud intervencionista**
- Efectos adversos (p. ej. diarrea, convulsiones,delirio): **“disconfort”**
- Monitorización (p. ej. vancomicina): **“disconfort”**
- Uso vía intravenosa(p. ej. riesgo infección, medicalización): **“disconfot”**

PREGUNTAS Y RESPUESTAS EN FARMACOLOGÍA CLÍNICA

Antibióticos por vía subcutánea en pacientes que precisan cuidados paliativos

Localizador web
Artículo 189.894

Aina Soler Mieras[a], Sebastià Santaeugenia González[b] y Eva Montané Esteva[a,c]

[a]Servicio de Farmacología Clínica. [b]Unidad de Geriatría. Hospital Universitari Germans Trias i Pujol. Badalona. Barcelona.
[c]Departamento de Farmacología, Terapéutica y Toxicología. Universitat Autònoma de Barcelona. Barcelona. España.

- Vía segura, alternativa para evitar vía IV (domicilio)
- Picos máximos de la concentración plasmática de más tardíos (alerta aminoglucósidos!) y concentraciones plasmáticas a las 24 h fueron superiores que las obtenidas por vía i.v.
- RA local en el punto de inyección (eritema, picor y dolor) y riesgo de necrosis cutánea

Contraindicaciones absolutas:

- Anasarca.
- Situaciones de shock.
- Coagulopatías graves.
- Infecciones de repetición en el punto de inserción.
- Negativa del paciente.
- Paciente caquéctico con tejido subcutáneo abdominal de menos de 1 cm.

Contraindicaciones relativas:

- Mala adaptación del paciente.
- Claudicación familiar.
- Situación social no adecuada al tratamiento domiciliario.

Marie Jumpertz, et al. Subcutaneously administered antibiotics: a review, *Journal of Antimicrobial Chemotherapy*, Volume 78, Issue 1, 2023, Pages 1–7,

Recomendaciones generales administración antibióticos SC

- Infecciones no graves o en pacientes en los que otras vías no son factibles/deseables.
- Sitios preferidos: pared abdominal o muslo.
- Infusión prolongada >30 min.
- Rotación del sitio de infusión cada 72–96 h (inmediatamente si hay inflamación local), vigilancia clínica diaria del sitio de infusión.
- Uso de catéter no rígido de 20G a 27G.
- Dilución en solución salina al 0,9%.

	PRESENTACIÓN	DOSIS HABITUAL	ADMINISTRACIÓN SC
AMPICILINA	BRITAPEN® vial 500 mg GOBEMICINA® viales 500 mg y 1 g	• 0,5 - 2 g c/ 4-6 h • Meningitis: 8 - 14 g/d (150-200 mg/kg/d) en 3-4 dosis	• 1 g en 50 ml SSF 0,9% en 20 min.
CEFTRIAXONA	CEFTRIAXONA NORMON® IM viales 500 mg y 1 g.	• 1- 2 g c/ 24 h • Máx: 4 g/d (en doble vía)	• 1 g en 50-100 ml API/SSF 0,9% en 15-30 min.
CEFEPIME	CEFEPIMA NORMON® viales 1g y 2 g	• 1- 2 g c/ 8-12 h • Máx: 6 g/d	• 1 g en 50 ml SSF 0,9% en 30 min.
TOBRAMICINA	TOBRAMICINA NORMON® vial 100 mg	• 3-5 mg/kg/d en 2-3 dosis • 4,5-5 (8) mg/kg (dosis única)	• 100 mg en 50-100 ml SSF 0,9% en 20-30 min.
AMIKACINA	AMIKAZINA NORMON® vial 500 mg	• 15 mg/kg/d en 2-3 dosis (ajustar a FR) • 15-20 mg/kg/d (dosis única)	• 500 mg en 100 ml SSF 0,9% en 30 min
ERTAPENEM	INVANZ® vial 1 g	• 1 g/dia	• 1 g en 50 ml SSF 0,9% en 30 min.
TEICOPLANINA	TARGOCID® viales 200 y 400 mg	• Inicio: 3-6 mg/kg/12 h (3 dosis) • Mantenim.: 3-6 mg/kg/d	• 1 vial reconstituido en 50-100 ml SSF 0,9% en 20-30 min.

	COCOS					BACILOS								ESPEC.
	Aerobios, aerobios/anaerobios facultativos										Anaerobios			
	GRAM+					GRAM -						GRAM+		
	Enteroc.		Staphiloc.											
	faecalis	faecium	SAMR	SAMS	Streptoc.	E. Coli	Klebs.	Proteus	Pseud.	ESCAPM*	B. frag.	Clostr. sp	C. diff	
AMPICILINA														Lysteria
CEFTRIAXONA														N. Gon/Men.
CEFEPIME														
TOBRAMICINA														
AMIKACINA														
ERTAPENEM														
TEICOPLANINA														

(*) Enterobacter - Serratia - Citrobacter - Aeromonas - Providencia - Morganella

SEMERGEN AP

@fjresal

Fuente: Duems-Noriega O. et al, 2015; Roubaud-Baudron C, 2016; Gallardo R. et al., 2017; Periáñez L. et al, 2019; Colin E. et al, 2019

@CSemergen

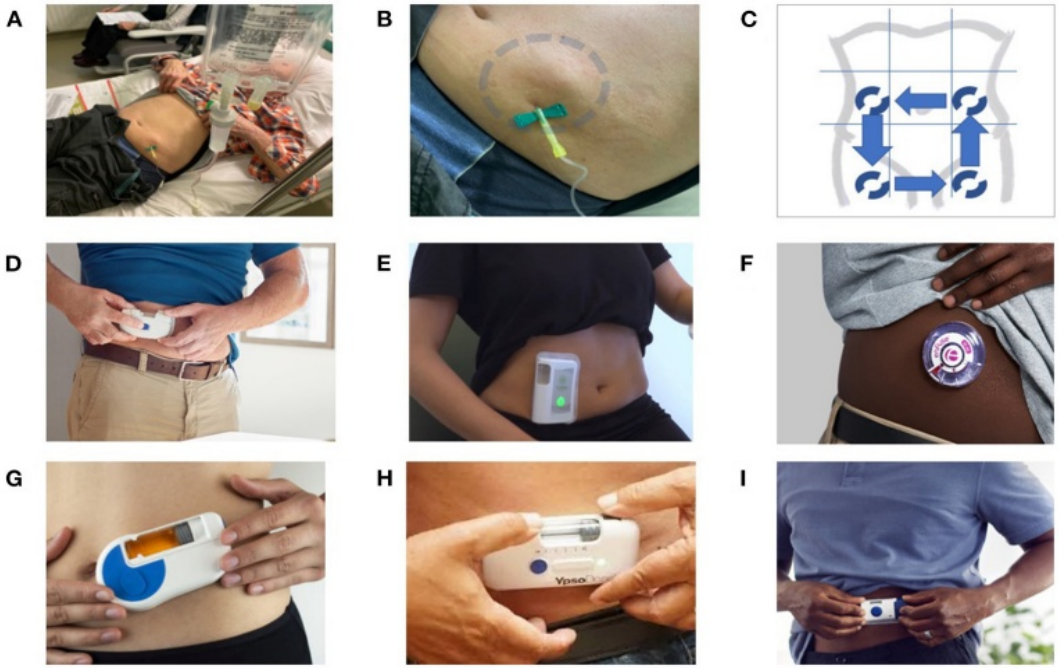
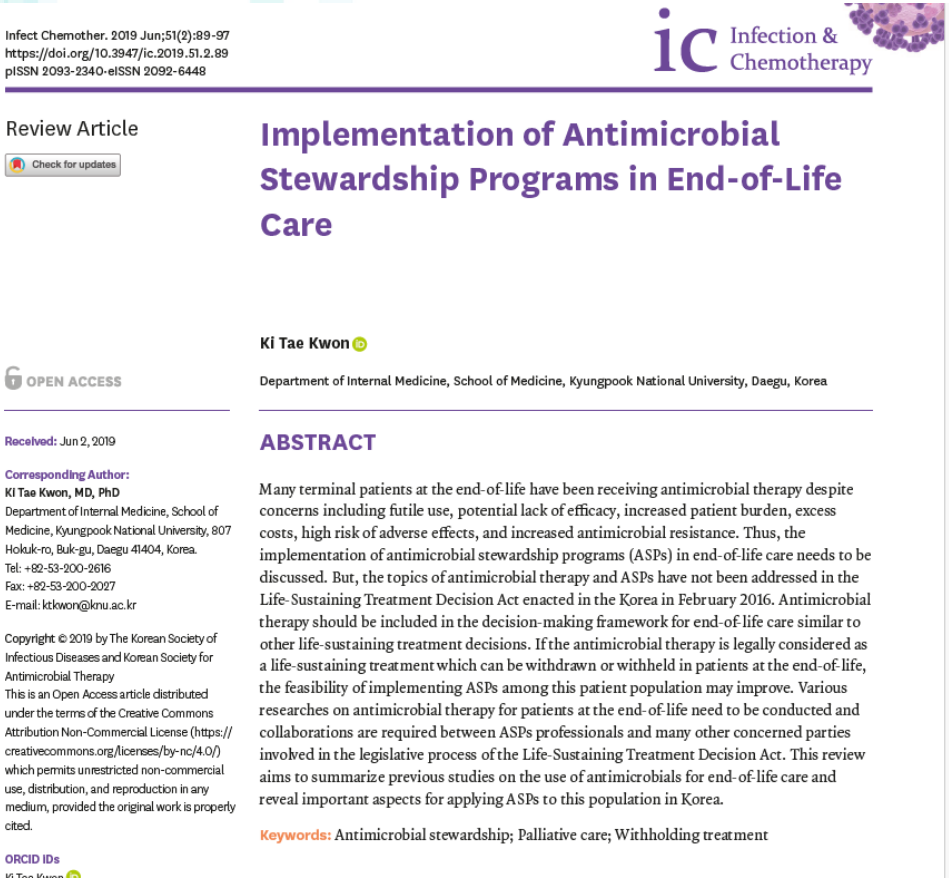


FIGURE 2 | SC administration of antibiotics: from the French experience to the use of on-body delivery systems for subcutaneous drug delivery. **(A–C)** Example of an off-label SC administration in the French reference center for the management of complex BJI. An 80-year-old patient with a prosthetic joint infection required prolonged ertapenem therapy, as no oral options were available due to multidrug resistance, and the use of a catheter was considered to be not appropriate and feasible. As a consequence, instead of using a catheter for a daily single injection, the patient was treated with SC administration, with dilution of the drug in 50 ml of saline, and gravity infusion using a removable butterfly needle **(A)**. At the end of the 30–45-min injection, a tumefaction appeared around the injection site (blue circle), which gradually disappears over 15–30 min due to diffusion of the antibiotics **(B)**. Each injection was performed on different sites, with rotating alternation of the SC injections on the left flank, right flank, anterior face of the right thigh, and anterior face of the right thigh **(C)**. This patient, treated for several weeks, did not experience any local injection site adverse events, such as inflammation or necrosis. **(D–I)** Examples of on-body delivery systems for subcutaneous drug delivery: SmartDose® Gen II 10 ml (West Pharmaceuticals) **(D)**; Wearable on-body device utilizing a vial (Sorrel Medical) **(E)**; EnFuse® On-Body Infusor (Enable Injections) **(F)**; Wearable On-Body Large Volume Injector (Sonceboz) **(G)**; YpsoDose® (Ypsomed AG) **(H)**; and SmartDose® Gen I 3.5 ml (West Pharmaceuticals) **(F)**.

Inyección de 30 a 45 minutos, al final aparición de tumefacción alrededor del sitio de la inyección (círculo azul), que desaparece gradualmente durante 15 a 30 minutos (difusión de los antibióticos).

Ferry T et al. Outpatient Subcutaneous Antimicrobial Therapy (OSCAT) as a Measure to Improve the Quality and Efficiency of Healthcare Delivery for Patients With Serious Bacterial Infections. Front Med. 2020; 23;7:585658.



Infect Chemother. 2019 Jun;51(2):89-97
https://doi.org/10.3947/ic.2019.51.2.89
pISSN 2093-2340·eISSN 2092-6448

Infection & Chemotherapy

Review Article

Check for updates

Implementation of Antimicrobial Stewardship Programs in End-of-Life Care

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OPEN ACCESS

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ABSTRACT

Many terminal patients at the end-of-life have been receiving antimicrobial therapy despite concerns including futile use, potential lack of efficacy, increased patient burden, excess costs, high risk of adverse effects, and increased antimicrobial resistance. Thus, the implementation of antimicrobial stewardship programs (ASPs) in end-of-life care needs to be discussed. But, the topics of antimicrobial therapy and ASPs have not been addressed in the Life-Sustaining Treatment Decision Act enacted in the Korea in February 2016. Antimicrobial therapy should be included in the decision-making framework for end-of-life care similar to other life-sustaining treatment decisions. If the antimicrobial therapy is legally considered as a life-sustaining treatment which can be withdrawn or withheld in patients at the end-of-life, the feasibility of implementing ASPs among this patient population may improve. Various researches on antimicrobial therapy for patients at the end-of-life need to be conducted and collaborations are required between ASPs professionals and many other concerned parties involved in the legislative process of the Life-Sustaining Treatment Decision Act. This review aims to summarize previous studies on the use of antimicrobials for end-of-life care and reveal important aspects for applying ASPs to this population in Korea.

Keywords: Antimicrobial stewardship; Palliative care; Withholding treatment

Corea (2016): **ley de toma de decisiones para los cuidados de final de vida**:

- Reanimación cardiopulmonar.
- Terapia con respirador
- Hemodiálisis
- Quimioterapia contra el cáncer
- Soporte vital extracorpóreo
- Transfusión
- Tratamientos inotrópicos
- No interrumpir la práctica para aliviar el dolor, nutrientes, agua y oxígeno simple
- **Antibióticos¿?**

59,6% de los pacientes recibían un antibiótico después de obtener órdenes de “no resucitar (DNR)”

European Journal of Clinical Microbiology & Infectious Diseases
https://doi.org/10.1007/s10096-021-04325-z

ORIGINAL ARTICLE

Antibiotic stewardship program (ASP) in palliative care: antibiotics, to give or not to give

Kai Chee Hung[1] · Lai Wei Lee[1] · Yi Xin (Singapore)
Andrea Lay-Hoon Kwa[1,4,5]

Patient selection for audit
Patients started on audited antibiotics are identified via hospital electronic medical database system

Review by clinical ID pharmacists and discussion of case with ID physician
- Patients are reviewed within the next working day using relevant information from clinical charts and electronic medical databases
- Further evaluation and discussion of cases is performed with ID physician and ASP team
- Evaluation is done on appropriateness of antibiotic dose, choice, duration, route with consideration of extent of care

Rejection
- Antibiotics continued beyond 48 hours of intervention, or patient's death within 48 hours of intervention
- Pharmacist will determine reason of rejection:
  1) Physician preference, 2) Patient's death within 48 hours, 3) Clinical improvement, 4) Sudden clinical deterioration, 5) Others (including family's decision)

Acceptance
Antibiotics stopped within 48 hours of intervention

Intervention
Interventions placed to stop antibiotics for palliative reasons

If patient is for comfort care

If patient is for active management of infection

Intervention for inappropriate cases
Interventions placed to optimize antibiotic dose, choice, duration or route where relevant. (beyond the scope of this study)

Table 3 Mortality outcomes after excluding patients whose antibiotics were continued until death within 48 h of intervention

	Antibiotics ceased ($n=283$)	Antibiotics continued ($n=119$)	p value[a]
Overall 7-day mortality rate	134 (47.3%)	54 (45.4%)	0.718
Overall 30-day mortality rate	215 (76.0%)	86 (72.3%)	0.435
30-day mortality due to infection[b]	53 (24.7%)	29 (33.7%)	0.110
Time-to-mortality—days, median (min–max)[b]	3 (0–24)	4 (0–27)	**< 0.001**

[a]Bolded value is statistically significant

[b]Thirty-day mortality cause and time-to-mortality were calculated for 301 patients who died within 30 days of audit, with 215 in the ceased group and 86 in the continued group

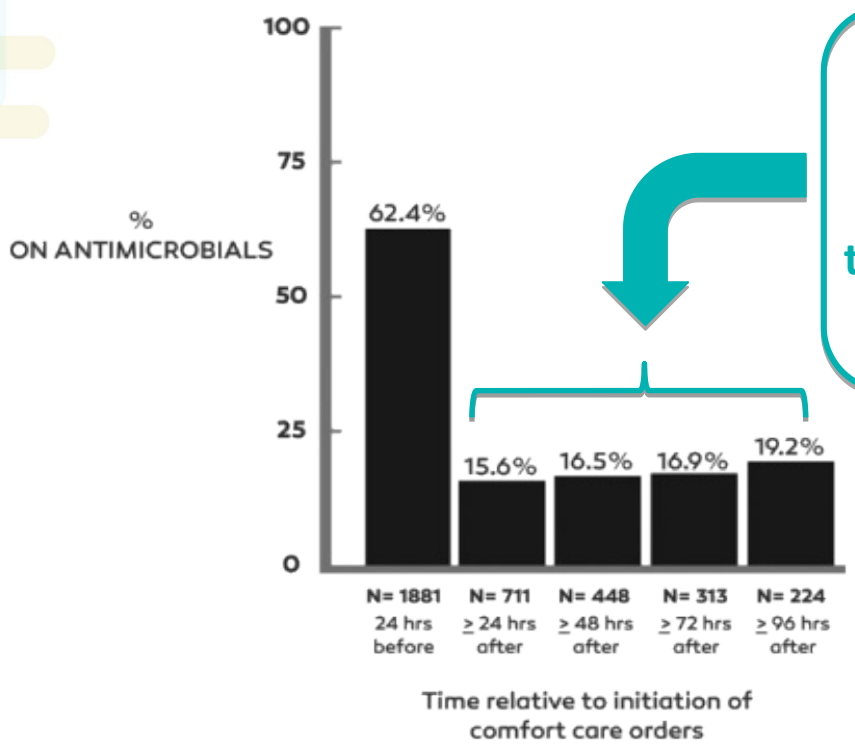
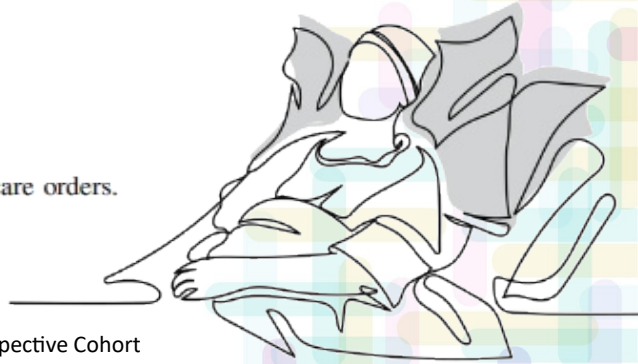


FIG. 1. Proportion of patients on antimicrobials by time relative to initiation of comfort care orders.

"Acción PROA": valorar discontinuar los antibióticos cuando se toma decisión de priorizar medidas de confort



Merel, S. E., et al. Antimicrobial Use in Patients on a Comfort Care Protocol: A Retrospective Cohort Study. Journal of palliative medicine, 2016; 19(11), 1210–1214.

Ethical and Practical Issues with the Use of Antimicrobial Agents during the End of Life

Amlak Bantikassegn, M.D.
Atrium Health, Charlotte, North Carolina, USA

The use of antimicrobials in patients receiving end-of-life (EOL) care, which is generally defined as supportive care provided to patients anticipated to live less than 1 year, has been actively debated in the realm of palliative care medicine due to the nebulous nature of the topic. In this article, we explore the use of antimicrobial use near EOL as it relates to both the ethical and practical issues that face physicians. We also discuss the reasons underlying the scarcity of prospective studies on this topic.

Key Words: Anti-bacterial agents, Antimicrobial stewardship, Palliative care, Bioethics, Terminal care

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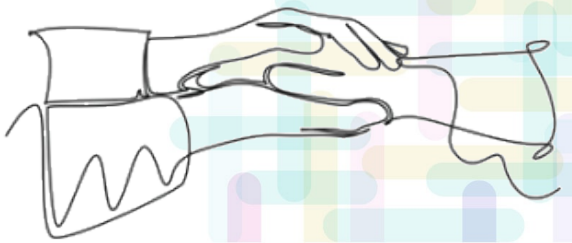
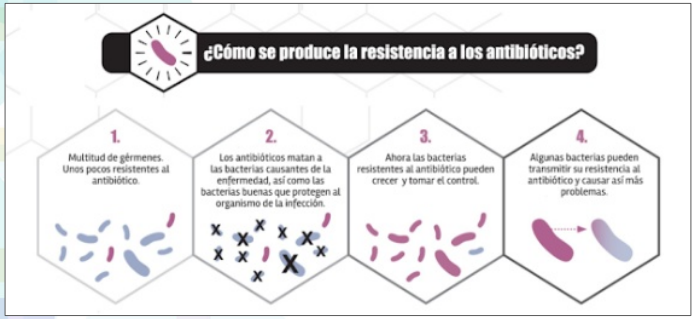
A CORUÑA 17-19 OCT 24

- Cuando la enfermedad está muy evolucionada los beneficios de los antibióticos en la **supervivencia** son escasos.
- La evidencia existente no deja claro los beneficios obtenidos en la mejoría de los **síntomas**(sintomatología urinaria): similar al de otras medidas terapéuticas sin antibióticos.
- Individualizar el uso de antibióticos. **Incorporar auditorías PROA**
- Contemporizar el "***do something***" en el cuidado global del en final de vida.
- **Valoración holística** del paciente y los protocolos

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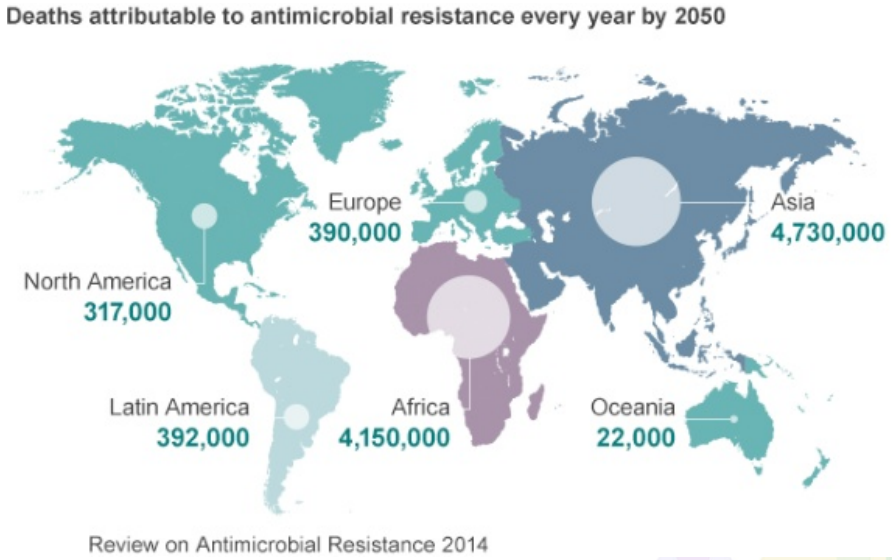
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Gracias por su atención

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