

Suzuki et al. caracterizaron 3 casos de *C. canis* en 2016 de pacientes sépticos, y también se ha descrito un caso de shock séptico causado por este microorganismo en 2020^{2,9–11}. En 3 de los casos se encontró que los pacientes eran grandes bebedores y, además, uno de ellos era asplénico, siendo factores de riesgo relacionados anteriormente con infecciones por *C. canimorsus*⁷. En nuestra institución esta es la segunda vez que reportamos un caso de infección por *C. canis*.

Como conclusión, *C. canis* ha demostrado su capacidad para producir infecciones en humanos. Hay que descartar una infección por esta especie especialmente en pacientes inmunodeprimidos si hay contacto con animales (mordeduras, arañazos o contacto con su saliva) e instaurar un tratamiento antibiótico rápidamente para evitar consecuencias fatales.

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Contribuciones de los autores

Domingo Fernández Vecilla: escribió la carta científica, revisó bibliografía.

Estíbaliz Ugalde Zárraga: ayudó con el diagnóstico molecular (secuencia en GenBank), revisó el caso y la bibliografía.

Mikel Joseba Urrutikoetxea Gutiérrez: revisó el caso, ayudó a modificarlo y revisó la bibliografía.

Felicitas Elena Calvo Muro: ayudó con el diagnóstico, revisó y sugirió cambios para el caso.

Conflicto de intereses

Los autores declaran no tener ningún conflicto de intereses.

Anexo. Material adicional

Se puede consultar material adicional a este artículo en su versión electrónica disponible en [doi:10.1016/j.eimc.2022.05.010](https://doi.org/10.1016/j.eimc.2022.05.010)

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Influence on sputum microbiology with CFTR modulator (tezacaftor-ivacaftor) in adult patients with cystic fibrosis: Multicenter study



Influencia en la microbiología del esputo del modulador CFTR (tezacaftor-ivacaftor) en pacientes adultos con fibrosis quística: estudio multicéntrico

Symkevi® (tezacaftor-ivacaftor) is indicated in a combination regimen of 150 mg ivacaftor and 100 mg tezacaftor pills for the treatment of patients with cystic fibrosis (CF) 6 years of age or older who are homozygous for the F508del mutation or heterozygous for the F508del mutation with residual function.¹ Tezacaftor is a selective corrector of the altered or deficient CF protein, cystic fibrosis transmembrane conductance regulator (CFTR), which facilitates cellular processing and transport of CFTR to the cell surface. Ivacaftor is a CFTR protein enhancer that increases the opening of the CFTR channel at the cell surface. The combination works against the

abnormal CFTR protein, increasing the amount and function of CFTR at the cell surface, resulting in an increase in airway surface fluid volume and ciliary beating frequency *in vitro* in human bronchial epithelial cells.² This drug is available in Spain from 1st October 2019.³ The various clinical trials conducted with this drug demonstrate its clinical efficacy on lung function, reduction of chloride concentration in sweat, improvement of body mass index, quality of life, as well as a 35% reduction in the number of pulmonary exacerbations compared to the placebo group.^{4,5} To date, there are no published data on the tezacaftor-ivacaftor effect on microbiological cultures.

The aim of this study is to assess, in real life, the effects on sputum microbiological cultures in adult CF patients from different units in Spain who received the combination tezacaftor-ivacaftor for 1 year.

We conducted an ambispective, multicentre study from December-1st 2019 to December-31st 2021 in the following CF Units in Spain: Hospital Universitario Virgen del Rocío (Seville),

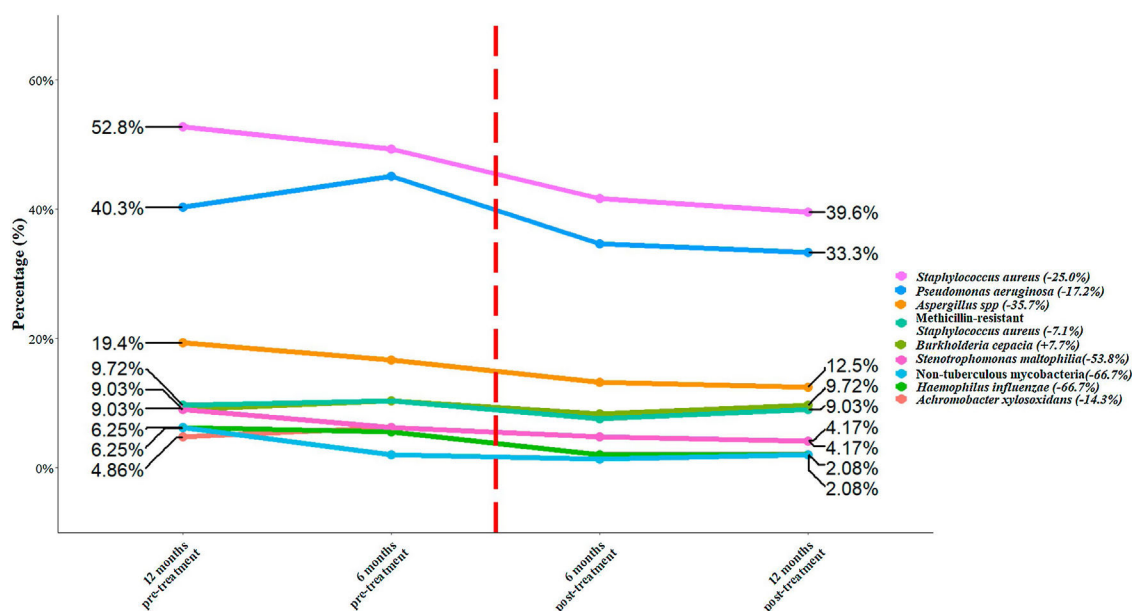


Fig. 1. Percentage of bacteria at 12- and 6-months pre-treatment and at 6 and 12 months post-treatment. The flashing red line symbolizes time 0 of the application of the treatment. The percentages of change for each bacterial species between 12 months pre-treatment and 12 months post-treatment is shown in brackets.

Hospital Universitario La Princesa (Madrid), Hospital Universitario 12 de Octubre (Madrid), Hospital Universitario La Paz (Madrid), Hospital Universitario Cruces (Bilbao), Hospital Universitario Central de Asturias, Hospital Carlos Haya (Málaga) and Hospital Universitario de la Coruña. Patients 18 years of age or older, who met diagnostic criteria for CF⁶ and who received a consecutive dose of 100 mg tezacaftor/150 mg ivacaftor in the morning + 150 mg ivacaftor in the evening (12-h interval) were included. Microbiological cultures were recorded every 6 months for 1 year and compared with the 6 and 12 months prior to taking the drug. The percentage of change was calculated comparing the differences in bacteria present at 12 month pre-treatment with 12 month post-treatment. Finally, the comparison of the proportions for each bacterial species at 12 and 6 months pre-treatment versus 6 and 12 months post-treatment was assessed using a χ^2 test or Fisher's exact test, whenever required. All analyses were performed using R statistical software.

We included a total of 144 patients with an age of 31.2 ($\pm$ 9.5) years. Among the total of patients, 78 (54.2%) were male, 111 (77.1%) were homozygous F508del and 33 (22.9%) heterozygous F508del. There were 120 (83.3%) patients with pancreatic insufficiency and 43 (29.9%) with CF-related diabetes. Chronic bronchial infection was present in 84.0% of the patients. The most prevalent microorganisms were *Staphylococcus aureus* (52.8%), *Pseudomonas aeruginosa* (40.3%), and methicillin-resistant *S. aureus* (MRSA) (9.7%). The percentage of change between 12 months pre-treatment and post-treatment showed a reduction for all bacteria species, except for *Burkholderia cepacia* (Fig. 1). The top five bacteria with the highest percentages of reduction were non-tuberculous mycobacteria (-66.7%), *Haemophilus influenzae* (-66.7%), *Stenotrophomonas maltophilia* (-53.8%), *Aspergillus spp.* (-35.7%) and *S. aureus* (-25.0%). Finally, we assessed whether the administration of the treatment significantly reduced the presence of any bacterial species. *S. aureus* showed a significant reduction ($p=0.033$) between 12 month pre-treatment to 12 post-treatment, while the remaining bacterial species did not show a significant reduction ($p \geq 0.054$).

Currently, the publications showing the results obtained after the use of this modulatory drug in daily clinical practice in CF units are scarce.⁷ In CF, respiratory tract involvement remains the main

cause of morbidity and mortality.¹ Chronic bronchial infection in CF, especially by *P. aeruginosa*, MRSA or *B. cepacia* causes airway inflammation, triggers pulmonary exacerbations, reduces quality of life and is an independent risk factor for increased mortality. Therefore, the trend towards a reduction of microorganisms in respiratory samples is a relevant factor in the evolution of the disease. The reduction of *P. aeruginosa* has been described in several studies in patients with ivacaftor treatment with gating mutations (non-functional surface CFTR protein).^{8,9} Only a small study of 20 homozygous F508del patients with another modulator combination, lumacaftor-ivacaftor, showed a non-significant decrease in *P. aeruginosa*.¹⁰

We believe that the present study is of great importance because it is the first multicentre experience presenting microbiological data with the combination of tezacaftor-ivacaftor modulators in a population of Spanish adults with CF.

Appendix A. Annex: Authors

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Chronic ESBL-*Klebsiella pneumoniae* prostatitis treated with once-daily tigecycline monotherapy in home hospitalization



Tratamiento con tigeciclina administrada una vez al día en monoterapia de una prostatitis crónica causada por *Klebsiella pneumoniae* productora de beta-lactamasas de espectro extendido

Dear Editor,

We present the case of a 79-year-old male with a history of low-risk myelodysplastic syndrome diagnosed in 2013, currently without specific treatment. He required a resection of the terminal ileum due to hemorrhagic ileitis in 2014. Afterwards, he presented several episodes of urinary tract infections (UTI). The first consisted of an acute prostatitis in 2015 caused by an extended-spectrum beta-lactamase (ESBL)-producing *Klebsiella pneumoniae*. Thereafter, he suffered from prostatic and seminal vesicle abscesses requiring bilateral orchiectomy in 2016. Abscesses were drained, and the patient received empirically linezolid and meropenem. Treatment was switched to ertapenem according to culture results, for a total of 21 days. No new episodes of prostatic or seminal vesicle abscesses have been observed. In 2017, he was admitted twice for sepsis secondary to prostatitis due to the ESBL-*K. pneumoniae*. In November 2020, he was diagnosed with voiding syndrome, being prescribed two months of fosfomycin-trometamol 3 g every 48 h with good tolerance. Minimum inhibitory concentration (MIC) was

< 16 mg/L at the beginning of the treatment, with development of resistance after the antibiotic course (MIC > 256 mg/L). In December 2020, he was admitted because of persistence of lower UTI symptoms with the presence of ESBL-*K. pneumoniae*, being treated with ertapenem 1 g/24 h for one week.

In February 2021, he was readmitted with astheny, general malaise, dysuria and vesical tenesmus, low-grade fever (37.5 °C) and perianal discomfort, being diagnosed of recurrent prostatitis. A new course-treatment of ertapenem (1 g/24 h) was started (glomerular filtration rate 31 mL/min/1.73 m²). After 3 days, urine culture showed ESBL-*K. pneumoniae* susceptible to carbapenems, without other potential alternatives. Clinical follow-up was satisfactory, with resolution of voiding symptoms and improvement of analytical parameters including glomerular filtration rate. However, on the 13th day of treatment, the patient presented neutropenia (initial neutrophils 5.8 × 10³ u/mcl, nadir 0.43 × 10³ u/mcl), and diarrhea, which caused hypernatremia, hypokalemia, hypomagnesemia, and hypocalcemia. Intravenous fluids and electrolyte replacement were required. *Clostridioides difficile* associated diarrhea was ruled out, so side effects were attributed to ertapenem. Treatment was firstly switched to tigecycline 100 mg followed by 50 mg/12 h. After the change, a significant improvement was noticed. Diarrhea went away, ion values were corrected, and neutropenia improved (although one dose of filgrastim was administered). After 48 h with tigecycline, the patient was discharged to home hospitalization with tigecycline 100 mg/24 h for 14 days to complete 4 weeks of antibiotic treatment. The patient did not present any recurrence nine months after this episode, with negative control urine cultures. Unfortunately, semen culture was not requested at any time.