Author contact details:
Email: vgutierrezu@uc.cl
Phone: +56 993219344

THIRD GENERATION CEPHALOSPORINS MONOTHERAPY EXPERIENCE IN PEDIATRIC PATIENTS WITH HIGH RISK NEUTROPENIA

Author(s): **Gutiérrez, Valentina**[1]; Claverie, Ximena[2].
Affiliations: [1]Pediatric Infectious Diseases, Complejo Asistencial Dr. Sótero del Río and [2]Pediatric Oncology Unit, Complejo Asistencial Dr. Sótero del Río.

Background

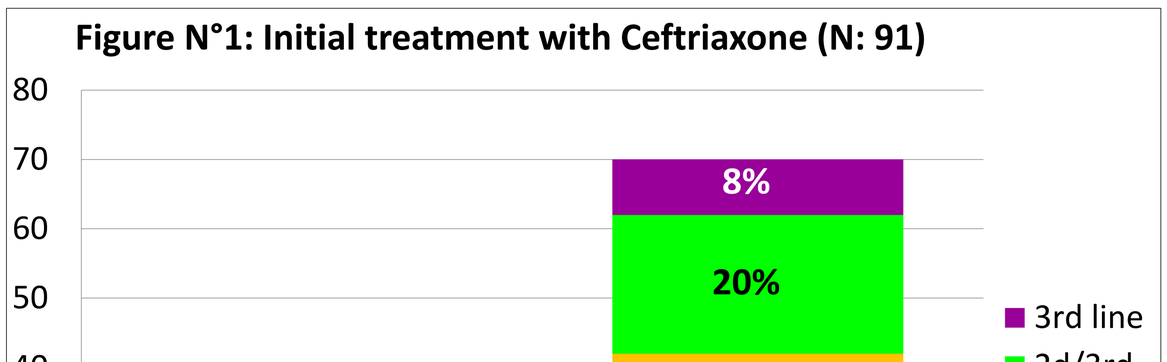
Fever during neutropenia is common in children with cancer. Monotherapy with aminoglycoside-containing combination therapy found no significant differences in failure rates, infection-related mortality, or overall mortality[1]. Local epidemiology and resistance patterns should be evaluated regularly[2]. In our hospital we do not have *Pseudomonas aeruginosa* isolates, therefore we use ceftriaxone as first line therapy in high risk febrile neutropenia. The goal of our investigation is to describe the experience of using third generation cephalosporins in these patients.

Methods

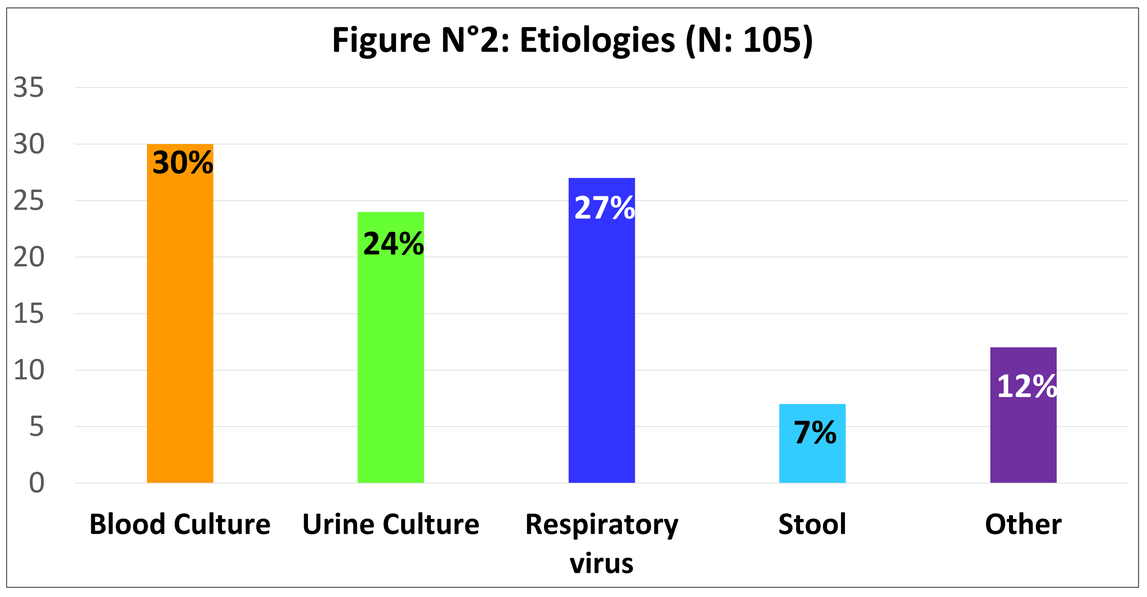
Descriptive study of high-risk febrile neutropenia episodes in patients admitted to the Pediatric Oncology Unit of Hospital Dr. Sótero del Río, Santiago, Chile. We included patients ≤15 years from June 2016 until December 2019.

Results

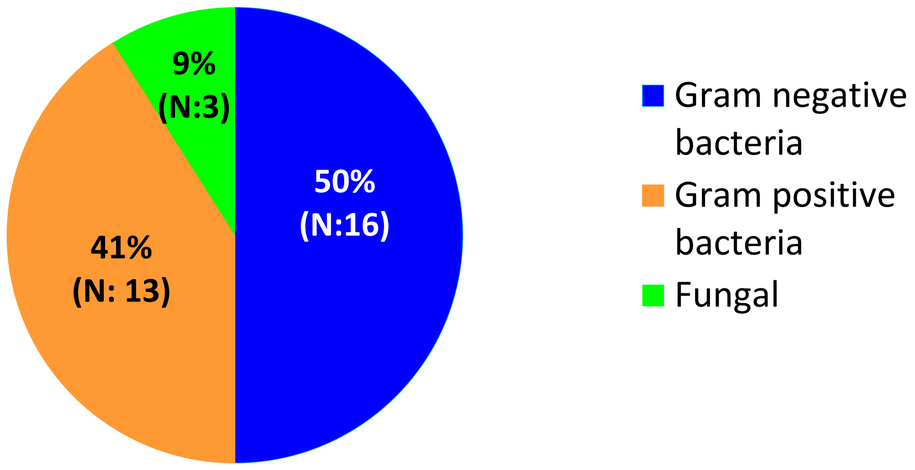
We found 140 high-risk febrile neutropenia episodes corresponding to 53 patients, 79% were leukemia and 21% were solid tumor patients. Of the 140 episodes, 69% had clinical signs at admission, mostly respiratory (49%). Of 140 episodes, 43 (31%) didn't have any source at clinical examination. Ninety one (65%) cases started ceftriaxone at admission.

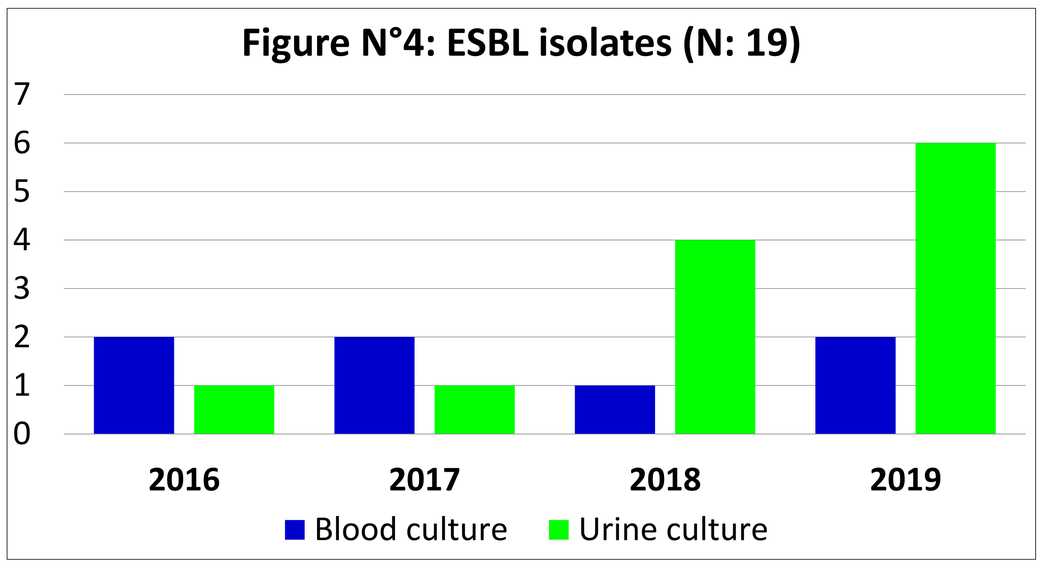


Of the total, 80 (57%) cases had an etiology, of these 21 (26%) had co-infection/co-detection.



We had 32 (23%) episodes with positive blood culture. Of the gram negative bacteria in blood, 7/16 (44%) were ESBL producers, without *Pseudomonas aeruginosa* isolates. Of total episodes, 19 (14%) had a ESBL producer strain (urine and blood).





Eighteen (13%) cases of total evolved with sepsis requiring intensive care unit management. One case died (0.7%) for refractory sepsis due to gram negative bacteria.

Conclusions

Although we did not have *Pseudomonas aeruginosa* isolates, due to the spread of ESBL strains and modification of treatment, monotherapy with ceftriaxone is not a good option as initial therapy for high risk febrile neutropenia patients. The empiric therapy has to be evaluated regularly and should always be based in local epidemiology.

References: 1.- Robinson P et al. J Clin Oncol 2016 June 10; 34 (17):2054-2060.
2.- Lehrnbecher T et al. J Clin Oncol 2017 June 20;35 (18):2082-2094.