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# Microbiological profile in the management of febrile neutropenia in the pediatric hematology and oncology department

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## INTRODUCTION

- Febrile neutropenia (FN) : common and potentially serious complication of malignant hematologic disorders.
- which can quickly jeopardize the prognosis.
- Infection is documented or severe in only 10 to 24% of cases.
- Most episodes of febrile neutropenia are clinically well tolerated, without bacterial identification
- Risk: progression to severe sepsis or septic shock, which can lead to the risk of death from infection

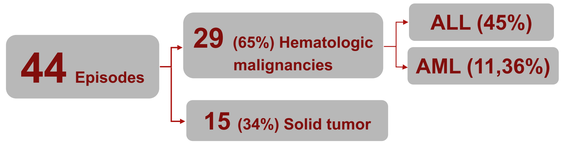
## OBJECTIF

Identify the microbiological profile of febrile neutropenia and discuss the therapeutic strategy adopted in the pediatric hematology oncology department.

## PATIENTS AND METHODS

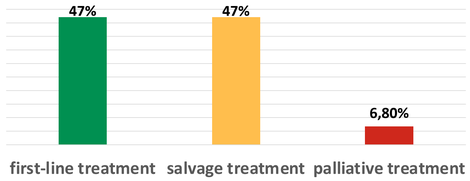
| | |
|---|---|
| **Type of study** | **retrospective descriptive study** |
| **Place of study** | **Pediatric Hematology and Oncology Department of Casablanca** |
| **Duration** | **May 2023 ➔ October 2023** |
| **Population** | **febrile neutropenic episodes in children treated for malignancies** |
| **Age** | **8 years ➔ 16 years** |
| **Treatment** | **Antibiotics, antifungals, antiparasitic"** |
| **Investigations** | **The biological tests, the patient's clinical status** |

## RESULTS




- The median age : 14 years
- M/F Sex ratio: 1,1

### The phase of onset of NF




- Documented history of infections: 21% of cases
- Microbiologically documented: 31% of cases

### Microbiological documentation

| Type of Microbiological documentation | Percent % | The isolated pathogens |
|---|---|---|
| Blood cultures | 28 | -Gram-positive Staphylococcus cocci.<br>-Acinetobacter johnsonii.<br>-Pseudomonas aeruginosa.<br>-Klebsiella pneumoniae.<br>-Staphylococcus haemolyticus.<br>-Staphylococcus hominis |
| Urine cytobacteriological examination | 10 | -E. coli resistant.<br>-Enterococcus faecium |
| Sputum cytobacteriological examination | 4 | -Stenotrophomonas maltophilia |
| Swabs of orifices | 4 | -Candida glabrata |
| Examination of serosities | 4 | -Serratia marcescens.<br>-Enterococcus faecium |
| Multidrug-resistant organisms | 0 | |

- Gram-negative bacillus: 54%.
- Gram-positive cocci: 45%.

### TREATMENTS

- First-line antibiotic therapy targeting: C3G, piperacillin-tazobactam
- Addition of a glycopeptide and/or a change of antibiotics: 76%
- Switch to third-line therapy (colistin, tigecycline): 42%
- Adjustment of the antibiotic according to the antibiogram: 28%
- Fluoroquinolones and metronidazole: respiratory signs or neutropenic colitis.

| Antifungal agents | Percent % |
|---|---|
| **Fluconazole** | **61** |
| **Voriconazole** | **33** |
| **Amphotericin B** | **23** |

### Evolution

- We note 3 deaths: 2 were under palliative care, and 1 was receiving salvage treatment

## CONCLUSION

- Our results are consistent with those in the literature, but the infection is not always documented
- Fever is the primary symptom of the infection that requires urgent administration of antibiotic therapy.

## REFERENCES


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