USE OF ANTIFUNGALS IN DAILY PRACTICE IN A BELGIAN HOSPITAL.

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BACKGROUND AND OBJECTIVES
The use of antifungals (AF) has increased these last years worldwide. We decided to do an audit of antifungals prescriptions in our teaching hospital (963 beds). Our study evaluated the appropriateness of AF prescribing according to 5 identified quality criteria: indication, choice of molecule, correct dosing, loading dose and duration. Additionally, we evaluated notification in medical charts for indications which is recognized as a quality indicator of antimicrobial prescribing.

RESULTS : Patients and units characteristics

- Demographic patient characteristics (n=104)
  - Age in years (median) 46.6 years (1 - 85.7)
  - Sex-ratio male / female 1.66
  - Mean length of hospital stay (days) (min-max) 22 days (2 - 102 days)

- Risk factor (n=104) %
  - Hematological disease 71.5%
  - Transplantation 43%
    - Hematopoietic Stem Cell Transplantation 21.4%
    - Solid Transplant 9.3%
  - Previous fungal infection 20.2%
  - Cancer 16.3%
  - Chronic obstructive Pulmonary Disease 10.2%
  - Immuno compromised 28.1%
    - Chemotherapy in the last month (>30days) 53.8%
    - Neutropenia during the antifungal treatment (>30days) 75.8%
    - Immune suppression treatment (>30days) 37.5%
    - Heavy Surgery 11.5%
    - Corticoid treatment (>1mg/kg/day for >3weeks) 8.9%
    - AIDS 2.8%
  - Mortality in the year 23.8%
  - All the end of AF treatment (%)
    - Medical Units 14.9%
    - Surgical Units 15.1%
    - Intensive Care Unit 28.1%

RESULTS : Indications of Antifungals use

- Duration of Prophylactic treatment
  - Median 23 days
- Prophylactic Indications 54%
  - Directed
    - 34.8% in cases with proven invasive aspergillosis
    - 19.4% if at least 1 risk factor for invasive aspergillosis
      - 3.9% in cases with potential invasive aspergillosis
    - 10.4% if at least 1 risk factor for invasive aspergillosis
      - 3.9% in cases with potential invasive aspergillosis
  - Empirical
    - 45.2%
      - 42.8% in cases with confirmed Candida
  - Directed* Prescriptions: 46%
    - Targeed prescriptions : 46%
  - Empirical* Prescriptions : 54%
    - Targeed prescriptions : 45.81%

RESULTS : Fungals profile

- On 104 patients, there were 96 patients, 18 are positive with Fungals (18%)

RESULTS : Combined criteria of evaluation of antifungals prescribing (Gyssens modified criteria)

- n = 106
  - Appropriate indication 71.9%
  - Appropriate choice 75.8%
  - Correct dosage >3.96% 75.8%
  - Loading dose >88% 85.7%
  - Duration (n=90) too long: 14.4%
  - Notification in medical charts 108.4%

CONCLUSIONS
- The study identified gaps in quality of antifungals prescriptions as only 56.5 % of prescriptions were adequate according to all criteria. In but general, when compared to the literature, the quality of prescription was globally the same: 54% at teaching hospital of Besançon and 57% at a teaching hospital of Grenoble (1). Moreover, the lack of notification for indications impacts the continuity of care. Median percentage reached 64.8% with 45.4% total notification (name of AF + indication). This result is the same of notification in previous antibiotic audit done in our hospital in 2010 but it’s lower than European percentages of 78% to 80% (2). In our current study we are not able to analyze per day of observation because last guidelines was implemented in hematology in September 2014. The only day after the implementation is the 4th day in our sample (in March 31st). To complete our study, it would be necessary to make 2 - 3 new days of observation at the end of year 2015 to verify change of behaviors (in hematology unit).

- Given the average duration of the AF treatment, we notice that the first 2 days of observation are too close. What has for consequences that 5 identical patients find themselves in day 1 and day 2.

REFERENCES: