chemotherapy, and five were severely neutropenic. All had fever and severe pain over the area involved (4 with calves involvement, 1 with thigh and 1 with axilla). Three were hypotensive and two required ICU care. Two patients were complicated with abscess development and two expired, despite adequate therapy with meropenem and amikacin. MRI findings were compatible with myositis. All *E. coli* isolates were resistant to quinolones. Moreover 33% were ESBL positive. Only five isolates were recovered and all belonged to the B2 phylogenetic group. PCR analysis of these *E. coli* showed similar virulence profile, with presence of uidA, adhesins iha and fimH, toxin sat, siderophores fyuA and iutA, invasins KpsII, usp, traT, ompT and PAI.
Conclusions: *E. coli* pyomyositis is an extremely rare clinical manifestation that has emerged as a new problem in our hematologic malignancy patients, and is associated with a high mortality (33.3%). Our molecular analysis showed that the isolates have the same phylogenetic background. Moreover, all have similar virulence factors profile which indicates that these *E. coli* may have acquired special properties to be able to invade the muscle. Our findings provide novel insights into the molecular epidemiology of invasive extraintestinal *E. coli* infections. Current studies are ongoing to further characterize this disease and to target the virulence factors for the potential development of preventive measures, such as vaccines.

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Using Serum Galactomannan Levels to Guide Early Anti-fungal Therapy in Haematology Patients at Risk of Invasive Aspergillosis

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Background: Patients with prolonged neutropenia are at risk of invasive aspergillosis. Empirical broad-spectrum anti-fungals after 4 7 days of antibiotics have been the standard of care, but might mean needless treatment in some patients.
Objectives: To determine if serial Galactomannan (GM) monitoring, in the setting of effective anti-candidal prophylaxis, permits targeted, pre-emptive therapy in those at greatest risk, and spare febrile patients without evidence of fungal infection other than prolonged fever from unnecessary and potentially toxic therapy.
Methods: This is a prospective, randomized, non-blinded study comparing two different strategies. Standard definitions of proven and probable invasive mold infections were used. Eligible patients were those with acute leukemias or myelodysplastic syndrome on induction, re-induction, consolidation or salvage chemotherapy; patients undergoing bone marrow transplantation; and patients with severe aplastic anemia on Antithymocyte Globulin. Patients in the study arm underwent serial GM monitoring and were given early pre-emptive anti-fungal therapy using an appropriate anti-fungal agent only if 2 consecutive GM antigen tests were positive or if they had one positive GM test and a highly suggestive CT thorax. The patients in the control arm were given the standard of care in accordance with the published guidelines for patients with febrile neutropenia i.e. no regular GM monitoring, but empirical antifungals if there was unexplained neutropenic fever after 4-7 days of broad-spectrum antibiotics.
Results: A total of 58 patients were recruited. One hundred and eighty-six GM tests were performed. The mean number of GM tests was 2.7 per patient. Duration of neutropenia was 14.4 days in monitoring arm versus 11.4 days in control arm (p=0.133). One patient in the study arm developed proven IA and one developed probable IA. There was no IA in the control arm. Excluding patients with probable/proven IA, 7 patients in the monitoring arm and 13 patients in the control arm were started on amphotericin or voriconazole or caspofungin. There was no difference in the number of deaths (62.5% vs 37.5%, p= 0.709).
Conclusion: Serial GM monitoring is a simple, non-invasive adjunct in the management of patients at high risk of IA in the setting of prolonged febrile neutropenia. Concerns about molds other than *aspergillus* limit its usefulness.

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Rothia mucilaginosus, an Uncommon Cause of Bacteremia in Immunocompromised Patients: Case Report and Literature Review

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Background/Objectives/Methods: We report a case of fatal bacteremia caused by *Rothia mucilaginosus* in a neutropenic patient. The literature on infections with this pathogen is reviewed.
Results: This 67 yr old male had CLL/SLL, for which he had received fludarabine-based therapy. He developed a Richter's transformation, treated with combination chemotherapy. More recently he had been diagnosed with hemophagocytic lymphohistiocytosis, related to possible EBV infection, treated with ganciclovir, IVIG, dexamethasone, and cyclosporine. He was admitted for febrile neutropenia, and placed on broad spectrum antimicrobial therapy. Vancomycin was added after coagulase negative staph bacteremia was diagnosed. After initial improvement, he developed fever, diarrhea, myalgias, and fatigue. WBC was $<$100 cells/mm3, hgb 10.0 g/dl, and platelet count 20,000. EBV PCR, CMV PCR, and viral cultures were negative. He was begun on empiric vancomycin, ceftazidime, and metronidazole. Initial blood cultures revealed Gram-positive cocci (GPC). He developed hypotension and hypoxia with continued fevers, with repeat blood cultures (PICC, port, peripheral blood) growing GPC. Linezolid was added, with concerns for VRE. The patient deteriorated and died. *Stomatococcus mucilaginosus* was grown from the initial blood cultures. *Rothia mucilaginosus* (*Micrococcus mucilaginosus*, *Staphylococcus salivarius*, *Stomatococcus mucilaginous*) is part of the normal flora of the oral cavity/upper respiratory tract. This GPC is weakly catalase positive or negative. Colonies are clear to whitish, mucoid, and adherent to media. This organism has been implicated in cases of bacteremia (neutropenic patients), meningitis (pediatric patients with malignancy, SCT), endocarditis (IV drug user), pneumonia, lung abscess, and peritonitis. Risk factors for infection include immunocompromise, neutropenia, mucositis, and broad spectrum antimicrobial therapy. By in vitro susceptibility testing, penicillins and cephalosporins are the treatment of choice.
Conclusion: *Rothia mucilaginosus* is a relatively uncommon Gram-positive organism that must also be considered in the differential diagnosis of bacteremia, meningitis, and respiratory tract infections in immunocompromised hosts.

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Epidemiology and Mortality of the Multidrug Resistant Gram-negative Bloodstream Infection in Acute Myeloid Leukemia

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Background: In the last few decades the epidemiology of infections in neutropenic patient had changed, reflecting prophylaxis and an-

timicrobial treatment influence, increased use of invasive devices and the epidemiology of infections related to hospital assistance[1,2]
Objectives: To describe the bloodstream infections (BSI) in patients with Acute Myeloide Leukemia (AML) in a university hospital of Sao Paulo, Brazil. To analyse the association between mortality and multidrug resistant Gram-negative bloodstream infection (MR-BSI).
Methods: During the period between January 2002 and November 2006 all positives blood cultures were, retrospectively, analyzed. Gram-negative MR-BSI was defined as the isolation of agent resistant for two or more of the following antibiotics: 3th and 4th generation cephalosporins, carbapenens, fluorquinolones, piperacilin/tazobactam.
Results: We identified 126 episodes of BSI in 58 patients. Polimicrobial BSI occurred in 6 patients. The patients mean age was 47.6 years old (17-88) and 46% (27) were male. The mean time of BSI occurrence was 29.1 days after hospital internment. In the total of 126 agents, 58% were Gram-negative bacteria, 36.5% were Gram-positive and 5.5% were *candida*. MR Gram-negative bacteria were responsible for 24 episodes of BSI, corresponding for 32.9% of the Gram-negative BSI. Between these MR Gram-negative bacteria *Klebsiella spp*. *Pseudomonas spp*. had been the most prevalent in 9 (37.5%) episodes each one. All MR Gram-negative were resistant to ceftazidime and cefepime. *Pseudomonas spp*. also had shown resistance to imipenem (9 of 9 or 100%) and to ciprofloxacina (7 of 9 or 78%). All *Klebsiella spp*. expressed extended spectrum beta lactamase production. Twenty-seven of 58 patients (46.5%) died within 30 days (7.3 days on average) from the BSI occurrence. The mortality 30 days from BSI occurrence was 59% of patients with BGN-MR BSI and 30.4% of patients without BGN-MR. The mortality 7 days from BSI occurrence was 41% of patients with BGN-MR and 8.7% of patients without BGN-MR BSI.
Conclusions: Gram-negative BSI had predominated. Between these bacteria 32.9% revealed resistance to multiple drugs of frequent use as empirical therapy. Mortality in this population with AML and BSI is extremely high, and stands out the deaths between the patients with multidrug resistance gram-negative bloodstream infection.
References:
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Infections in Surgical Patients and Intensive Care Units, Including Patients with Burns

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Fungal Infections in a Pediatric Burn Care Unit

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Introduction: Fungal infections have been recognized as an important cause of morbidity and mortality in burn patients.
Objectives: The objective of this study was to describe fungal infections in a specialized burn intensive care unit.
Material and Methods: We included prospectively all patients with confirmed fungal infections at any site from January 2002 to March 2006.
Results: We included 41 patients in the study. The mean age of the patients was 48 months (r: 2-144), 29 patients (70%) were boys. The burn surface affected was between 15 and 87% (mean 40%). Localization of the burns were in upper limbs- 37 patients (73%), lower limbs- 35 patients (85%), trunk- 33 patients (80%) and perineal area- 19 patients (46%). Central and arterial catheterization was present in 40 patients (98%) for a median time of 14 days (r: 4-90 day) vessical catheterization in 40 patients (98%) for a median time of 14 days (r: 4-90 days). Thirty-eight patients (95%) had received previous antibiotics, 2 patients (5%) had received parenteral nutrition. The time lapse between admission and acquisition of fungal infections was between 4 and 90 days (mean 13 days). The most frequent site of isolation was from deep wounds in 38 patients (93%) and blood cultures in 3 patients (7%). In all patients, except 3 (7%) with fungal infections, bacterial infections were found. The predominant fungus recovered was *Candida* species in 18 patients (44%); followed by *Aspergillus* species in 6 patients (15%). Anfotericin B was the drug of choice at the beginning of treatment followed by azoles if feasible. The median time of complete treatment was 23 days (r: 9-90). One patient died (2%).
Conclusions: Fungi play an important role in burn infections. Infection with *Candida* species was the most frequent. Special cultures for yeast are recommended for all cases with burn infection.

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Prevalence of Oxacillin-resistant *Staphylococcus* Strains in Clinical Specimens from Intensive Care Unit Patients

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Background: *Staphylococci* are often involved in infections regarding Intensive Care Unit (ICU) patients and their susceptibility or resistance to oxacillin is of major importance for the appropriate therapeutical approach.
Objectives: To estimate the prevalence of oxacillin-resistant staphylococcal strains isolated from ICU patients.
Methods: Between 1/1/2007 and 31/12/2007, 73 *Staphylococcus* strains were isolated from different samples obtained from ICU patients. Samples included bronchial aspirates, wounds, central venous catheters, blood and nasal swabs. Identification of bacteria was based on routine laboratory proceedings while testing for oxacillin resistance was performed with the disk diffusion method with the use of 30 microgram Cefoxitin disk according to CLSI guidelines. *St. aureus* strains that were characterized as oxacillin resistant were furthermore tested for PBP2a protein production by latex method.
Results: 27 *St. aureus* strains were recovered as well as a total of 46 coagulase-negative staphylococci (CoNS) with *St. epidermidis* and *St. haemolyticus* being the most frequent among them. Oxacillin resistance rates in the *St. aureus* group were 48% and all strains tested positive for PBP2a production. Oxacillin resistance rates in the CoNS group were 86.9%.
Conclusions: About half of *St. aureus* strains and more than 8 out of 10 CoNS recovered from ICU clinical specimens were oxacillin resistant. High oxacillin resistance rates depict an important problem when dealing with staphylococcal infections and underline the necessity for proper surveillance and infection-control measures.