for relapse. Our aim was to compare the incidence of resistance to 2nd generation FQ, such as ofloxacin, pefloxacin and ciprofloxacin, in bacteria isolated from blood cultures of patients who received (group 1) and in those who not received PQF (group 2) during the period 1996–2000.

**Results:** Group 1 consisted of 102 febrile episodes in 76 pts. with a median age of 7.9 years. 72.5% of episodes were in HSCT pts. and 23.5% in relapsed pts. They were classified as MID in 24%, as CID in 13% and as FUO in 63% of cases. Septic shock was present in 5/102 episodes (5%). Early mortality (within 30 days) was observed in 3/76 pts (4%). The strains isolated from blood were 19 (13 G+, 5 G-, 1 fungus) and 13 were tested for FQ susceptibility: resistance to FQ was observed in 3/8 G+ (37%) and 3/5 G- (60%), respectively.

Group 2 consisted of 916 febrile episodes in 341 pts with a median age of 5.2 years. Only a minority of episodes were in HSCT pts (5%) or in relapsed pts (18%). They were classified as MID in 25%, as CID in 11% and as FUO in 64% of cases. Septic shock was present in 23/916 episodes (2.5%). Early mortality was observed in 51/341 (15%) pts. The strains isolated from blood were 186 (105 G+, 63 G- and 18 fungi) and 156 were tested for FQ susceptibility: resistance to FQ was found in 22/95 G+ (23%) and 4/61 G- (6.5%), respectively.

**Conclusions:** this data show a major incidence of systemic infections by G-FQ resistant strain in patients who were on PFQ although that has not been translated in a major incidence of clinically or microbiologically demonstrated infections or in a major mortality rate. G+ strains appeared intrinsically more resistant to FQ because a high rate of resistance was found also in pts who were not receiving FQ. Prospective randomized studies are needed to define the role of PFQ prophylaxis in reducing severe infections and early mortality in high-risk patients.

**Prospective study of Candida glabrata in three New York City university hospitals: comparative susceptibility profiles of isolates within a geographic region, and those associated with bloodstream invasion, systemic infection, and colonization**

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**Introduction:** The differences in antifungal susceptibility of C. glabrata associated with bloodstream invasion, infection, and colonization are uncertain. Most systemic candidiasis arises from host’s endogenous flora so it is important to evaluate the prevalence of drug resistance among organisms comprising yeast reservoir to determine appropriate prophylactic, preemptive, and empiric therapy, especially in high-risk settings.

**Methods:** Evaluation of all clinical yeast isolates during 1998 to 1999 from three large teaching hospitals in New York City was performed prospectively. Candida spp. re-identification (under code) and susceptibility according to NCCLS guidelines was performed at The State Department of Health, Albany, New York.

**Results:** The level of resistance for fluconazole (FLU) and itraconazole (ITRA) among 347 C. glabrata isolates was 10.7% and 18.2% respectively. In 33 bloodstream, and 314 isolates from other body sites, MIC50 for FLU was 32.0 μg/ml and ITRA 1.0 μg/ml. A significant difference was observed between isolates from medical centers caring for substantial population of patients with cancer (Center–I), and AIDS (Center–III) (MIC50 for FLU 32.0 and >64.0 μg/ml, respectively) and C. glabrata isolated from patients at a community-based university hospital (Center–II) (MIC50 for FLU 16.0 μg/ml; P=0.001). A similar difference for ITRA was not significant (P=0.5). A higher frequency of resistance was also noticed among respiratory and urinary tract isolates (FLU MIC50 ≥64.0 μg/ml). In contrast, 46 isolates obtained from gastrointestinal tract MIC50 for FLU was ≤8.0 μg/ml (P=0.01).

**Conclusions:** The results of present study indicate that triazole-derived antifungal susceptibility may not significantly differ among C. glabrata associated with hematogenous invasion, systemic infection, and colonization.

**Fatal breakthrough Scedosporium apiospermum (Pseudallescheria boydii) brain abscess during therapy for invasive pulmonary aspergillosis in a patient following high-risk allogeneic BMT**

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**Introduction:** Systemic scedosporiosis due to the anamorph/ asexual state of Pseudallescheria boydii has emerged as an important cause of opportunistic invasive mycosis in the severely immunosuppressed individuals.

**Case report:** A 34-year-old man presented with fever and hemoptysis, while on oral itraconazole prophylaxis 8 months after second allogeneic marrow transplantation for relapsed Philadelphia chromosome positive chronic myelogenous leukemia. His WBC was 1400...
cells/µL. Serum LDH and aminotransferase levels were normal. Treatment with Abelcet® (5 mg/kg daily) was initiated for bilateral Aspergillus fumigatus invasive pulmonary mycosis confirmed by CT scan and bronchial cultures. He showed significant improvement during 2nd week and near-complete resolution of pulmonary densities on CT scan. Due to exacerbation of cutaneous and orointestinal tract GvHD, the patient was given therapy with equine ant-thymocyte globulin, tacrolimus, and high-dose methylprednisolone. The 3rd week was marked by recurrence of fever (>39°C), and several new upper lobe pulmonary lesions. Blood and bronchial samples were sterile. Abelcet® dose was increased (7.5 mg/kg daily), and oral itraconazole (400 mg liquid every 8h) was initiated. On 24th day of hospitalization, he developed headache, 6th cranial nerve paralysis and unsteady wide-based gait. A superior vermicul abnormality including intra-axial cerebellar lesion was noticed on magnetic resonance images of brain. Abelcet® was increased to 10 mg/kg daily. He developed progressive weakness, obtundation, and died on hospital day 36. On postmortem examination a large necrotic abscess involving the cerebellar vermis that extended into posterior brain stem was seen. Branching, septate hyphal elements extending from cerebellar blood vessels were noticed on histological examination, and S. apiospermum was isolated within 72 h. Antifungal susceptibility (MIC µg/ml) included: amphotericin B >16.0; flucytosine >64.0; fluconazole 32.0; itraconazole 2.0; ketoconazole 0.5; and voriconazole 0.5. Cerebellum tissue bioassay for free amphotericin B showed levels <0.25 µg/ml.

Conclusions: Breakthrough invasive mycosis due to amphotericin B non-susceptible fungi is increasing. The newer broad-spectrum triazole-based agents with excellent central nervous penetration may significantly improve treatment options in patients at risk.

Pathogens causing blood stream infections in hospitalized cancer patients, 2000–2001

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Blood stream infections (BSI) are a significant cause of morbidity and mortality among patients with cancer undergoing therapy. We evaluated all BSI which occurred in cancer patients at our institution during 2000–01 in order to identify the causative pathogens.

Nosocomial BSI was defined as symptoms and at least 2 positive blood cultures for coagulase-negative Staphylococcus (CoNS) and other skin contaminants and one or more positive blood cultures for all other pathogens.

A total of 399 episodes of BSI occurred in 273 patients. Of these patients hematological cancer (HC) was present in 104 and solid cancers (SC) in 169. Gram-positive pathogens were isolated in 221 (55%) of the BSI, gram-negatives in 161 (40%) and candida spp. in 17 (5%). Overall, the commonest pathogens isolated were S. aureus 72 (18%), CoNS 63 (16%), Klebsiella spp. 39 (10%), F. coli 39 (10%), Enterococcus spp. 33 (8%), Pseudomonas spp. 24 (6%), viridans streptococci 22 (6%), Enterobacter spp. 18 (5%), Corynebacterium spp. 11(3%), and S. pneumoniae 9 (2%). Among HC the predominant organisms were S. aureus 20%, CoNS 16%, Enterococcus 10%, Pseudomonas 9%, Klebsiella 7% and S. pneumoniae 3%. In SC the commonest organisms were S. aureus 18%, CoNS 16%, E. coli 14%, Klebsiella 13%, Enterococcus 7%, viridans streptococci 6%, Candida 6%, and Pseudomonas 3%. Twenty-eight (27%) of the HC patients vs 29 (17%) of SC patients were neutropenic at the time of the BSI. In HC patients with neutropenia there were 41 episodes of BSI and the commonest organisms were Pseudomonas 17%, CoNS 17%, Enterococcus 12%, S. aureus 9%, Candida 7% and E. coli 7%. In contrast of the 34 episodes of BSI in SC patients with neutropenia the commonest organisms were E. coli 32%, Klebsiella 14%, S. aureus 12%, CoNS 9%, Pseudomonas 6%, and Acinetobacter 6%.

Gram-positive pathogens were the commonest pathogens isolated from BSI in cancer patients. However, the gram-negative pathogens such as E. coli, Klebsiella, and Pseudomonas are still significant causes of BSI especially among patients with neutropenia. Moreover, Pseudomonas still remains the most common pathogen isolated from BSI in HC patients with neutropenia.

A five-year clinical audit in the haematology ward of a tertiary care hospital: establishing degree of correlation between bacteraemia and oro-pharyngeal screens in immunocompromised patients and role of prophylaxis

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Introduction: A clinical audit was carried out over 5 years (1997–2001) in the immunocompromised patients including neutropenic patients and bone marrow (autograft) transplant recipients in haematology ward of Gartnaval General Hospital, Glasgow, a tertiary care center.

Objective: It was aimed to establish the degree of correlation between bacterial isolates in oro-pharyngeal screen during bacteraemia episodes and role of antibiotic prophylaxis.

Methods: 2191 specimens from 255 patients with bacteraemia episodes were screened.

Results: 29.1% (75/255) incidence of positive correlation, and 38.4% (98/255) of negative correlation was observed. There was 32.1% (82/255) incidence of coagulase negative staphylococcus (CNS) bacteraemia.