Table 2: Veterinary isolates of *Blastomyces helicus*

Case/year	Location	Animal	Sample
v1/2005	Colorado	Dog	Lung
v2/2007	Unknown	Dog	Lung
v3/2009	Montana	Cat	Lung
v4/2012	Colorado	Cat	Lung
v5/2014	Colorado	Unknown	Lung

Figure 1. Mycelial phase of *B. helicus* (c2) at 25C showing typical helically coiled hyphae and absence of conidia.

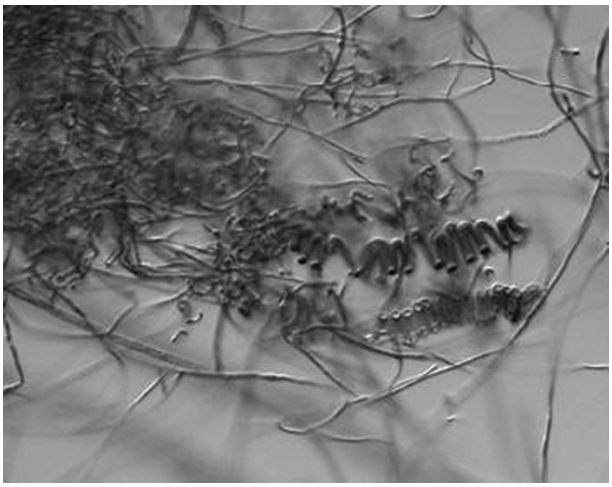


Figure 2. Yeast-like phase of *B. helicus* (c1) at 35C showing typical variably sized yeast-like cells in chains.

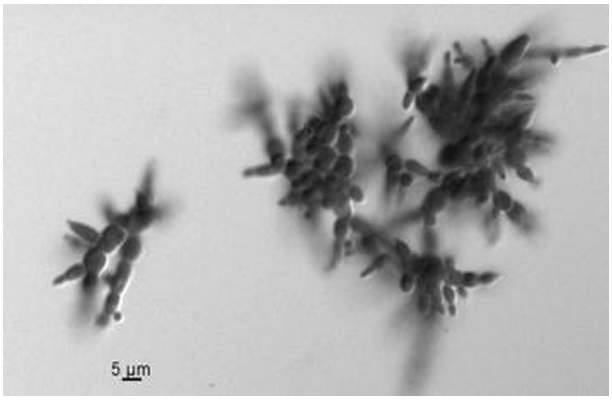
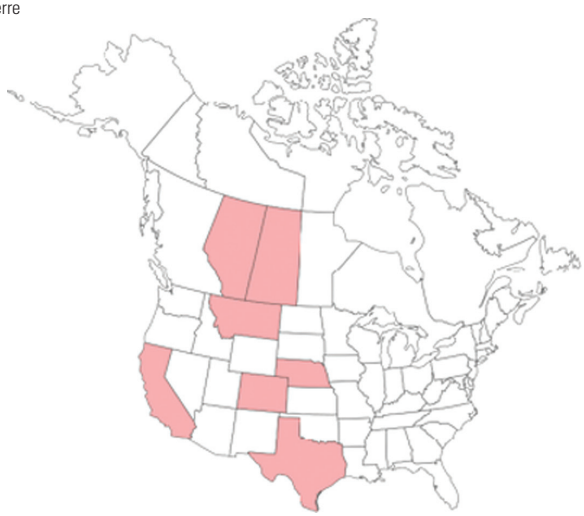


Figure 3. Canadian provinces and US states from where *Blastomyces helicus* isolates were referre



Conclusion. *Blastomyces helicus* caused pulmonary and fatal disseminated disease, mainly in immunocompromised persons, and lung disease in companion animals in western Canada and US. Epidemiological investigations are needed to establish the burden of disease and geographic range of this pathogen.

Disclosures. **All authors:** No reported disclosures.

173. QTc Prolongation in Patients Receiving Triazoles and Amiodarone

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Background. Prolonged QT interval may lead to ventricular arrhythmias, torsade de pointes and sudden death. Triazole antifungals are often administered to inpatients with cardiac disease and with other QT prolonging drugs. Amiodarone is a commonly used antiarrhythmic that can prolong QT and be proarrhythmic but safety of co-administering these agents in the clinical setting is not known.

Methods. We conducted a retrospective, observational cohort study of adult inpatients at Duke University Medical Center who received concomitant systemic azoles and amiodarone from 2007 to 2013. Included subjects had ≥1 electrocardiogram (EKG) performed while receiving either agent alone within 1 month of starting concomitant therapy (baseline, BL) and ≥1 follow-up (FU) EKG after ≥2 days of concomitant therapy. A paired *t*-test was used to assess the maximum change in corrected QT interval (QTc, Bazett's correction) from BL to FU. Logistic regression was used to evaluate predictors of FU QTc ≥500 ms (age, race, gender, and BL QTc ≥500 ms). Patient discharge diagnoses of ventricular arrhythmias or other cardiac events were reviewed to assess clinical outcome.

Results. Of 816 subjects identified, 252 had EKG results eligible for analysis. Azoles received were fluconazole (86.5%), voriconazole (11.5%), posaconazole (1.6%) or itraconazole (0.4%). Subjects were a median of 65 (IQR 25–88) years of age, 64.3% male and 78.6% Caucasian. Median duration of concomitant therapy was 7 days (IQR 4–11 days). Mean maximal change in QTc was +32 ms from BL (95% CI 26.2–38.6, $P < 0.0001$). 25.4 and 48.8% of subjects had a BL and FU QTc ≥500 ms, respectively. BL QTc ≥500 ms but not age, race, or gender was associated with FU QTc ≥500 ms (OR 6.32 95% CI 3.21–12.43). Thirty-day all-cause mortality was 26.2%. No cardiac events were apparent in relation to concomitant azole-amiodarone therapy.

Conclusion. Prolongation of the QTc interval was frequently observed in this cohort of patients receiving azoles and amiodarone. Clinical impact is challenging to assess in this critically ill, complex patient population but appears to be limited. Additional analyses are needed to further evaluate safety of azoles in the setting of other QTc prolonging agents.

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174. Increasing Incidence of Blastomycosis Infection in Vermont

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Background. Blastomycosis is an invasive infection caused by the ubiquitous fungus Blastomyces. The clinical presentation ranges from limited cutanenous infections to pneumonia and disseminated disease. Endemic areas in the United States include: midwestern, south-central, and southeastern states; yearly incidence is <0.3 cases per 100,000. Diagnosis is based on recovery of the organism on fungal culture. A urine antigen test is available for the detection of blastomycosis which has a sensitivity of 92.9% and specificity of 79.3%. Anecdotally, an increasing number of patients are presenting to the University of Vermont Medical Center (UVMMC) with disseminated blastomycosis – an area in which the fungus is rare. We hoped to determine the incidence of blastomycosis in Vermont over a 10-year period and examine the sensitivity of the urine antigen in our patient population.

Methods. After IRB approval, medical record numbers of all patients who had BD-glucan, blastomyces urine antigen, culture, or pathology positive for blastomyces during a 10-year period (2006–2016) were obtained. Chart review completed for all patients with diagnosis of blastomycosis. Data collected on demographic characteristics: zip code, comorbidities, site of infection, HIV, BD-glucan, blastomyces urine antigen, fungal culture, and treatment duration.

Results. Forty-one blastomycosis cases were found; 39 cases in Vermont residents. The incidence rate Vermont was 0.7 cases per 100,000. Mean age was 49 years, 60% of patients were male. Most patients had pulmonary (37%) or disseminated infection (37%). 17% of patients had localized cutaneous disease, bone and joint infection (7%) or CNS disease (2%). Urine antigen was positive in 78% overall, and in 90% with disseminated infection. Three deaths, none attributed to blastomycosis.

Conclusion. Vermont appears to have a higher incidence than what has been reported in the US overall. This increase may have to do with better reporting and testing rather than a true increase in disease. Most common disease presentation was

localized pulmonary or disseminated disease. Urine antigen sensitivity ranged from 78% (overall) to 90% (disseminated disease). This appears consistent with what has been reported in other studies, but is lower than the overall reported sensitivity.

Disclosures. **All authors:** No reported disclosures.

175. Epidemiology and Prognostic Factors of Non-albicans *Candida* species Candidemia: A Multicenter Study

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Background. The incidence of *Non-albicans Candida* (NAC) fungemia has increased over the past decades with high mortality rates. However, the epidemiology and prognostic factors have seldom been investigated between species of NAC.

Methods. Patients with NAC fungemia between 2011 and 2014 from five tertiary hospitals in Taiwan were enrolled. The epidemiology data and factors associated with mortality including antifungal agents were collected by a standardized case-record form. A multivariate regression model was applied to analysis the factors associated with mortality.

Results. In total, 611 non-duplicated patients were enrolled. *Candida tropicalis* (n = 245, 42.3%) was most common followed by *Candida glabrata* (n = 213, 34.9%), *Candida parapsilosis* (n = 106, 17.3%) and others (n = 47, 7.7%). The overall 30-day mortality of all NAC candidemia was 47.7%. *C. tropicalis* infection had higher 30-day mortality (54.6%) than *C. glabrata* (42.8%) and *C. parapsilosis* (36.8%) ($P < 0.05$). In general, Charlson Comorbidity Index (CCI), liver cirrhosis, double lumen use, and recent steroid exposure predicted a poor prognosis. Instead, central line infection was a protective factor (OR 0.42; 95% CI 0.24–0.71; $P = 0.001$) because removal of central line was a most effective method for infection source control. In individual species of NAC, patients with *C. parapsilosis* infection took advantage from favorable host factors including younger age, lower CCI, fewer steroid exposure and more from central line infection than other two species. On the other hand, though the host factors were similar between *C. glabrata* and *C. tropicalis* infection, patients with *C. grabrata* infection took benefit from more echinocandin or high dose fluconazole (≥10 mg/kg/day) use, which was associated lower mortality than those with usual dose fluconazole (6–10 mg/kg/day). However, the echinocandin or high dose fluconazole did not improved outcome of *C. tropicalis* infection.

Conclusion. The epidemiology and prognostic factors were different among NAC species. Risk assessment and therapeutic strategy should be individualized according to species when facing the rising threat of NAC infection.

Disclosures. **All authors:** No reported disclosures.

176. Ocular Candidiasis in Patients with Candidemia at a Large Tertiary Care Center

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Background. Bloodstream infections (BSI) caused by *Candida* sp. have a high mortality rate and have been increasing in recent years. Ocular candidiasis (OC) is one systemic manifestation of *Candida* infection; either chorioretinitis or endophthalmitis, and may lead to vision loss. Therefore, IDSA recommends an ophthalmology exam for all patients with *Candida* BSI. However, reported incidence of OC varies from 1 to 25%, questioning routine eye exams in these patients. The purpose of this study was to evaluate the number of patients who undergo ophthalmological exams and those diagnosed with OC at Ochsner Medical Center, New Orleans (OMC-NO).

Methods. One hundred and forty-four patients were identified from January 2013 to December 2015 with at least one positive blood culture for *Candida* sp. (only *albicans*, *glabrata*, and *parapsilosis* were included). Records were reviewed through the EPIC system.

Results. Of the 144 patients, 65 were females and 79 males; average age 58 years old. Seventy-six (52.8%) had an ophthalmological exam at Ochsner; excluding one patient who refused an exam, one patient who was excessively combative, and one patient in whom exam was deferred due to medical condition. Three patients (3.9%) showed *Candida* chorioretinitis; none endophthalmitis.

Conclusion. OC can have devastating consequences if left untreated and early diagnosis is imperative. Our analysis reveals that OC is present in 3.9% of ophthalmology exams, but this may be biased towards patients who are cooperative and can tolerate a dilated eye exam. Critical patients with multiple co-morbidities may be at higher risk for OC. A weakness of our study is that it is limited to ophthalmology records at Ochsner, and there may be records at outside facilities. Further data is required to make recommendations in patients with *Candida* BSI.

Disclosures. **All authors:** No reported disclosures.

177. The Risk Factors and the Characteristics of Fungal Endophthalmitis Following *Candida* Blood Stream Infection, a Case–Control Study

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Background. Fungal endophthalmitis is one of the severe complications following *Candida* blood stream infection (Candidemia).

Methods. To analyze the risk factors of Candidemia-related fungal endophthalmitis, total 50 Candidemia cases underwent ophthalmology examination between April 2011 and March 2016 were retrospectively collected from the medical records. Ten Candidemia with endophthalmitis cases were compared with 40 Candidemia cases without endophthalmitis were reviewed to analyze the risk factors and characteristics; patients' age, gender, causative *Candida* species, the presence of shock, the highest sequential organ failure assessment (SOFA) score and the predisposing factors including diabetes, steroid use, hematological malignancy, cancer, central venous catheter (CVC) placement and neutropenia.

Results. By bivariate analysis, candidemia caused by *C. albicans* (40% vs. 6.7%, $P = 0.009$), the presence of shock (36.4% vs. 15.4%, $P = 0.197$), CVC placement (25.7% vs. 0%, $P = 0.092$), and neutropenia (40% vs. 15%, $P = 0.097$) were found higher endophthalmitis group. By logistic regression analysis, *C. albicans* candidemia was only found to be a significant risk factor (adjusted odds ratio 9.41 [95% CI, 1.42–64.76]).

Conclusion. *C. albicans* is most responsible causative agent for candidemia-related endophthalmitis. Candidemia cases with the presence of shock, CVC placement, and neutropenia should be closely monitored to early detect *Candidemia*-related endophthalmitis.

Disclosures. **All authors:** No reported disclosures.

178. Antifungal Resistance and Predictors of Response in Patients with Hematologic Malignancy

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Background. Invasive aspergillosis (IA) causes significant morbidity and mortality in patients with hematologic malignancies (HM). Azole resistance has emerged as a therapeutic challenge in managing IA. The aim of this study was to investigate *Aspergillus* susceptibility to antifungals over the past decade among HM patients, and correlate susceptibility to clinical outcomes.

Methods. All *Aspergillus*isolates banked from 2002 to 2014 isolated from HM patients with probable/proven IA were tested for antifungal susceptibility. Patients with hematopoietic cell transplant, duplicate and non-viable isolates were excluded. Data were collected on demographics and clinical factors that could affect the treatment response, antifungal susceptibility (MICs/MECs), and treatment response at 14, 30, and 90 days.

Results. Forty patients were identified. MICs for amphotericin B slightly increased over the past decade ($R = 0.32$, $P = 0.09$), but were stable for voriconazole ($R = -0.08$, $P = 0.61$). The MIC50 during the first 3 years (2002–2004) and last 3 years (2012–2014) for amphotericin B were 0.5 and 1 mg/l, and for voriconazole 0.5 and 1. Mean age 56 years, 48% male, 82% had active HM and 45% had received chemotherapy within 14 days of IA. 50% were neutropenic and 30% had circulating blasts. Forty percent were on antifungal prophylaxis. Seventy-five percent of isolates were *A. fumigatus.* Fourteen responded to treatment (TR) and 26 were non-responders (NTR), and they did not differ in baseline characteristics. However, neutropenia (14% TR vs. 58%, NTR, $P < 0.017$) and circulating blasts (0% TR vs. 35% NTR, $P < 0.02$) at 14 days differed. The MIC50 for voriconazole was 0.5 mg/l in both groups, and for amphotericin B was 0.25 in TR vs. 1 mg/l in NTR. Fourteen-day response correlated with 90-day response ($R = 0.74$, $P < 0.01$) which validated the use of 14-day response for clinical outcome. All responders on amphotericin B at 14, 30, and 90 days had isolates with MIC < 1, whereas no apparent MIC-response correlation was found for voriconazole.

Conclusion. Although not statistically significant, a trend of increasing *Aspergillus* amphotericin B MICs was observed over the past decade. Neutropenia and persistent disease correlated with treatment failure. Clinical response was not affected by the azole or polyene MICs.

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