there is a need for better understanding of the effect of iatrogenic immunosuppression (present in most cases of IA) on such host response-driven biomarkers.

**Methods.** Male BALB/c mice were separated into an *Aspergillus fumigatus* inhalational exposure group and a placebo group. These two groups were each subdivided into three additional sets based on immunocompromised status (no immunosuppression, cyclophosphamide, and corticosteroids) for a total of six experimental groups. Mice were sacrificed 4 days post-infection. Whole blood was assayed for transcriptomic responses via microarray. Bayesian techniques were utilized to develop classifiers of IA and leave one out cross-validation was used to estimate predictive probabilities.

**Results.** Aspergillus infection triggers a powerful response in non-IC hosts, with 2996 genes differentially expressed between IA and controls. We generated a 146-gene expression classifier able to discriminate between non-IC mice with IA and uninfected non-IC mice with 100% accuracy. However, the presence of immunosuppressive drugs exhibited a strong confounding effect on the transcriptomic classifier that was derived in the absence of immunosuppression. After controlling for the genomic effects of immunosuppressive drugs, we were able to generate a 187-gene classifier with a sensitivity of 100% and specificity of 97% across all IC states.

**Conclusion.** The host transcriptomic response to IA is robust and highly conserved. Pharmacologic perturbation of the host immune response unsurprisingly has powerful effects on gene expression-based classifier performance and must be taken into account when developing novel diagnostics. When appropriately designed, host-derived peripheral blood transcriptomic responses to IA demonstrate the ability to accurately diagnose Aspergillus infection, even in the presence of immunosuppression.

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

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**1722. Histoplasmosis Acquired in Alberta, Canada, 2011–2018**

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**Session:** 165. Mycology

**Friday, October 4, 2019: 12:15 PM**

**Background.** Histoplasmosis is a serious fungal infection caused by the geographically restricted, dimorphic fungus *Histoplasma capsulatum*. In Canada, the geographic range of *H. capsulatum* is classically thought to be restricted to southern parts of Ontario and Quebec. Over the past decade, histoplasmosis has occasionally been diagnosed in patients in Alberta without travel to areas of known geographic risk (Figure 1). We studied the epidemiology and geographic distribution of histoplasmosis in Alberta to assess evidence for locally-acquired infections.

**Methods.** We retrospectively reviewed all laboratory-confirmed (culture, antigen and/or immunodiffusion positive) cases of histoplasmosis diagnosed from January 1, 2011 to June 30, 2018. Data collected by public health and clinical charts were reviewed for clinical presentation, exposure and travel histories, and geographic distribution of cases. Cases of histoplasmosis in patients who had not left Alberta or associated with a local point source were classified as definite local acquisition; cases in patients with remote travel but with local exposures and appropriate timing of disease onset were deemed “probable” cases of local infection. University of Alberta’s Research Ethics Board approved this study.

**Results.** We identified 45 laboratory-confirmed cases of histoplasmosis, including 17 cases that were locally acquired. Among these, there were 12 cases of definite local acquisition, including 8 patients from 3 point-source outbreaks—all involving exposure to bats and/or their droppings in chimneys or attics of private dwellings or churches—and 4 sporadic cases in patients who had never traveled. Of the other 5 cases probably acquired in Alberta, patients had previously traveled (*n* = 4) or travel history was incomplete (*n* = 1) but local exposures preceding infection were considered compelling. The mean incidence rate of locally acquired infection was 0.062/100,000 population with incidence increasing since 2014. Table 1 shows features of locally acquired cases.

**Conclusion.** This study, for the first time, establishes Alberta as a region of geographic risk for histoplasmosis. The diagnosis should be considered in patients with compatible symptoms and exposure history, even in the absence of travel.

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

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**1723. Human Serum Albumin Regulates the Growth of Candida auris in vitro**

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**Background.** *Candida auris* is commonly detected in human ear secretions. However, *C. auris* occasionally causes bloodstream infections even in immunocompetent patients resulting in poor prognosis. It was speculated that *C. auris* growth within the blood might be regulated by proteins in the bloodstream. Thus, in this study, the potential role of blood proteins in the regulation of *C. auris* growth was investigated.

**Methods.** Five Candida species (*C. albicans, C. auris, C. glabrata, C. parapsilosis, and C. tropicalis*) were incubated overnight. Colony suspensions for each species were prepared and adjusted to OD 1.0 at absorbance 0.1. Then, human serum albumin (HSA) and bovine serum albumin (BSA) were diluted (2.5 g/dL–0.002 g/dL) and mixed with the suspensions. Mixed samples were adjusted to 100 μL and incubated on MHA plates at 35°C for 2 days. Then, 50 μL of the combined sample was extracted and streaked onto Yeast extract-Peptone-Dextrose (YPD) agar. The remaining 50 μL sample was analyzed using an XTT assay. Further testing was then conducted on the effects of a specific blood protein albumin on *Candida*. Thereby, *C. albicans* and *C. auris* were cultured following the procedure above and stained with Annexin V and PI.

**Results.** The growth of *C. auris* mixed with a high albumin concentration (2.5–0.15 g/dL) was regulated compared with that of other Candida species (*P* < 0.01) (Figures 1 and 2); however, the growth of *C. auris* mixed with a lower albumin concentration was similar to that of other species. The wash-out study showed that *C. auris* growth and survival in the high albumin concentration was not different than that of other species.

**Conclusion.** HSA and BSA regulated *C. auris* growth which led to increased necrosis of *C. auris*. Conversely, growth of the other Candida species was not regulated. Therefore, albumin might be involved in the growth and necrosis of *C. auris*. As the highest concentration at which albumin regulated *C. auris* growth was similar to that found in human serum, it is possible that serum albumin might help prevent *C. auris* from entering the bloodstream via the ear or skin.