**Objectives**: Cannabis use for medical purposes has increased substantially in the U.S., outpacing high-quality data on efficacy and safety. Medical cannabis is not approved by the Food and Drug Administration, but it is legal in 43 states and District of Columbia. Cannabis consumption is associated with invasive fungal infections (IFIs; aspergillosis in particular) in case reports and some epidemiologic studies, and cannabis has been shown to be contaminated with pathogenic moulds and bacteria. However, definitive links between cannabis and IFIs have not been proven by molecular methods. We cared for a 46 year-old-woman with relapsing multiple myeloma treated with daratumumab, pomalidomide and dexamethasone, in whom *Cryptococcosis neoformans* epiglottitis/laryngitis and meningitis was diagnosed. We hypothesized that cryptococcosis was caused by a strain present in cannabis products she used for refractory chemotherapy-induced nausea.

**Materials & Methods:** The patient provided us with 4 cannabis products that she had purchased legally from different dispensaries: loose dried cannabis flowers (ground and hybrid flowers, grown in Pennsylvania), vape cartridge (distillate) and wax. We developed methods for culturing samples on maltose yeast extract agar (MEA) and Sabouraud dextrose (SD) plates or in maltose yeast extract broth (MEB). We performed Illumina short-read whole genome sequencing (WGSing) on cultivated and control strains.

**Results**: *C. neoformans* var. grubii was cultured from the patient’s larynx and cerebrospinal fluid (CSF). Moulds were cultured readily from each of the 4 types of cannabis product, including *Aspergillus fumigatus*, *A. flavus*, *A. niger* and *Penicillium* species [Fig. 1]. After adding a sonication step to our methods, *C. neoformans* var. grubii was recovered from hybrid flower (but not other products) on MEA and in MEB (single culture of each positive). *C. neoformans* var. grubii strains from larynx, CSF, flower-MEA and flower-MEB were genetically indistinguishable from one another by core genome SNP phylogeny, but they differed significantly from reference *C. neoformans* var. grubii strain and a *C. neoformans* var. grubii strain recovered from another patient at our center [Fig. 2]. Therefore, *C. neoformans* var. grubii from cannabis flower was the cause of cryptococcosis. We are currently performing metagenomic sequencing of DNA from cannabis products to determine the full spectrum of fungal contamination.

**Conclusions**: This is the first study to definitively link a fungal or bacterial infection to a pathogen in medical cannabis used by the patient. Our data demonstrate that cannabis consumption poses a risk for IFI, as has long been postulated. In the U.S., there are no federal guidelines for the development, medical use or quality testing of medical marijuana products. In Pennsylvania, private labs perform testing using non-standardized or -validated protocols. Better regulation of medical cannabis is needed, as are rigorous clinical studies of safety, efficacy and risks for infections by moulds, yeasts and bacteria. Until high-quality clinical data are available, our findings support recommendations that immunosuppressed patients avoid using medical cannabis.