

P2188 Metagenomic next-generation sequencing: a new and fast way for the diagnosis of cryptococcosis in clinical practiceSu Yi*¹, Miao Qing¹, Jing Wenting¹, Jue Pan¹, Bijie Hu¹¹ department of infectious diseases, Shang Hai, China

Background: We analyze the value of metagenomic next-generation sequencing (mNGS) as a new technique that is increasingly used for the diagnosis of cryptococcus infections compared with the conventional detection methods which are imperfect in speed or microbial population identification.

Materials/methods: mNGS was used to detect pathogens from sputum, bronchoalveolar lavage fluid (BALF), cerebrospinal fluid (CSF) or tissue (lung or skin) homogenate in patients with clinically suspected infections between April 1, 2017 and March 31, 2018. The clinical characteristics and mNGS results of patients with cryptococcus infections are reviewed in this research.

Results: mNGS results of seventeen samples from sixteen patients were analyzed. Totally fifteen samples of fourteen patients were detected cryptococcus using conventional detection method who were diagnosed pulmonary cryptococcal disease (PD) or disseminated cryptococcal disease (DD) clinically and eight of them got positive mNGS results. The strict mapping reads number (SMRN), strict mapping reads number genus (SMRNG), coverage rate, absolute abundance and reads per million (RPM) of tissue (lung and skin) homogenate were all higher than those of BALF, sputum and CSF. Among the eight patients who got positive clinical and mNGS results, malassezia and phanerochaete were present in three patients and aspergillus, penicillium and saccharomyces were present in two patients. Three of four patients who detected tissue-homogenate got positive results and four patients got positive mNGS results among seven patients who detected BALF. There are significant differences in sensitivity between conventional diagnostic method and mNGS ($P < 0.05$) and among the eight patients who got positive mNGS results, all the patients got increasing cytokine ($P < 0.05$).

Conclusions: mNGS has the advantage in speed and microbial population identification though the sensitivity is lower than latex fixation test. Tissue homogenate obtains more positivity and increasing cytokines could assist mNGS in cryptococcus detection.

