

## Dexamethasone/salmeterol/fluticasone-propionate

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**Invasive pulmonary Aspergillosis: case report**

A 56-year-old man developed invasive pulmonary Aspergillosis during treatment with salmeterol/fluticasone-propionate for suspected chronic obstructive pulmonary disease and off-label treatment with dexamethasone for COVID-19 respiratory infection [not all dosages, routes and times to reaction onsets stated].

The man, who had been working as janitor and had a history of obesity, hyperlipidaemia, hypertension and diabetes mellitus, was admitted to ICU of a hospital in France with nonproductive cough and progressively increasing dyspnoea. He had been receiving inhaled salmeterol/fluticasone-propionate for suspected chronic obstructive pulmonary disease. He also had been receiving various other concomitant medications. Prior to the admission, he had received amoxicillin and pristinamycin for suspected bacterial pneumonia. Upon admission, findings of various investigations were consistent with hypoxaemic respiratory failure, diabetic ketoacidosis, ketonaemia and acute kidney failure. Real-time reverse-transcriptase PCR test of his nasopharyngeal swabs showed positive result for SARS-CoV-2 (COVID-19) [aetiologies not stated]. Screening for fungal infections showed negative result. Consequently, he started receiving an off-label treatment with dexamethasone 20mg for seven days and single infusion of eculizumab 1200mg on hospital day 2. He additionally received broad spectrum antibiotic regimen comprising piperacillin/tazobactam, cefotaxime and spiramycin, which was stopped on hospital day 4 due to negative result on tracheal aspirate pneumonia plus panel. On hospital day 6, his condition deteriorated and the need for vasopressor and oxygen increased. Direct examination of tracheal aspirate showed branching hyphae with calcofluor white. Culture on malt extract agar and Sabouraud dextrose agar with Chloramphenicol media isolated *Aspergillus fumigatus* after one day at 30°C. Specific *Aspergillus fumigatus* quantitative PCR using tracheal aspirate sample was positive. Invasive pulmonary Aspergillosis was considered. Bacterial culture on blood and chocolate agar media were negative following incubation for five days. Serum galactomannan index, serum  $\beta$ -D-Glucan and serum qPCR-Af were negative. On the same day, transthoracic echocardiogram exhibited hypertrophy and dilation of the right ventricle. D-dimer level increased with fibrinogen 3.85 g/L. He evolved unfavorably and died of a cardiac arrest, which was suspected due to massive pulmonary embolism. Autopsy was not allowed due to SARS-CoV-2 infection. Subsequently, the *Aspergillus fumigatus* was identified to be triazole-resistant and carrying TR34/L98H mutation.

Ghelfenstein-Ferreira T, et al. Recovery of a triazole-resistant *Aspergillus fumigatus* in respiratory specimen of COVID-19 patient in ICU - A case report. Medical Mycology Case Reports 31: 15-18, Mar 2021. Available from: URL: <http://doi.org/10.1016/j.mmcr.2020.06.006>

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