

## Cannabis and a unique case of COPD – A case report

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### Abstract

A 39-year-old Caucasian male presented to the emergency department with right-sided chest pain and breathlessness. He mentioned that he was getting progressively breathless on exertion since 2018. This has worsened over the course of this year with significant reduction in his exercise tolerance. He has been a smoker since the age of 11, smoking 40 cigarettes per day. He also smokes ten cannabis sticks per day (two grams) since 14 years old. His oxygen saturation was 96% on room air. He had a CXR showing bullous emphysema on the right lung and a small pneumothorax.  $\alpha$ 1-antitrypsin level was 1.7 (0.9 g/l – 2.0 g/l). A previous spirometry was obstructive, with FEV1 to FVC ratio of 68% and FEV1 of 1.41 L (35%). HRCT showed Bilateral upper lobe emphysematous changes with large bullae. The largest bulla on the right side was about 23.0 cm. It was decided not to aspirate the right sided pneumothorax in the emergency department due to his multiple bullae as there was a risk of piercing other bullae, thus transforming a simple small pneumothorax into a tension pneumothorax. He was reviewed by the Respiratory team and discharged with consideration for endobronchial valve insertion procedure. He was also listed for the Lung Transplant waiting list. FEV1 value can be expected to be decreased by at least 5-10% by 20 years of age if the patient has been exposed to active or passive smoking early in his life. Besides tobacco smoking, our patient also smoked ten sticks of cannabis per day for 25 years. These findings suggest that smoking cannabis along with tobacco smoking from an early age may cause early onset of pulmonary emphysema despite having a normal level of  $\alpha$ 1-antitrypsin. In light of recent UK government legislations, further studies are required to assess the harmful effect of cannabis on the respiratory system especially in vapor form.

### Biography

Harsha Gunasekara completed his primary medical qualification MBChB (Hons) in 2020 from university of Liverpool. He is currently working as a foundation year one doctor at Milton Keynes university hospital. He has a special interest in respiratory medicine and planning to pursue his career in this field.

