Figure 1. Positive methacholine challenge. The patient had a 39% drop in FEV1 after inhalation of 0.0625 mg/dL of methacholine, the lowest concentration tested. The drop in FEV1 was reversed by a bronchodilator (Post BD).

A methacholine challenge test is one of the methods to assess bronchial hyperresponsiveness (BHR). BHR is one of the features that can contribute to the diagnosis of asthma. The test is reported as a PC-20 value; the inhaled provocative concentration causing a 20% drop or more in the pretest FEV1. This patient had a PC-20 of <0.1 mg/mL which is interpreted as a moderate to severe bronchial hyperresponsiveness by ATS guidelines (1). A normal bronchial response is a PC-20 > 16 mg/mL, 4-16 mg/mL is considered borderline and 1-4 mg/mL is mild BHR according to the ATS guidelines.

Mohammad Dalabih, MBBS and Linda Snyder, MD
University of Arizona
Tucson, AZ USA

Reference