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Title: Best time for evaluating the response to bronchodilators

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Body: Introduction: There is no clear consensus on the time of interpretation of the bronchodilator effect. The interval between administration of bronchodilator type β 2-agonist short-acting and the practice of post bronchodilator spirometry remains a controversial issue. Our objective was to define the optimal time of bronchodilator responsiveness in assessing the reversibility or otherwise of an obstructive respiratory disorder (ORD). Materials and Methods: Analytical study prospectively over a period of 8 months, performed in the pneumology service of FSI Hospital Security. The study included patients with ORD defined by an FEV / FVC <0.7 and who had consulted outside of an exacerbation. Flows and expiratory volumes (FEV, FVC) were measured before and after bronchodilator in the 5th, 10th, 15th, 20th and 30th minute. The response to BD was expressed in absolute and percentage change from baseline. Results: 58 patients were included in the study, mean age 54 ± 15 years with a majority of men. Our study was conducted in patients with asthma and COPD whose airway obstruction was moderate (FEV = 2 liters, or $62 \pm 15\%$ predicted). (1) The maximum response after bronchodilator occurred at the 20th and 30th minutes respectively for FVC and FEV. (2) The number of reversible patients was guideline depending. (3) The maximum number of reversible patients was obtained in the 20th minute with a significant difference compared to that observed at the 5th and 10th minute. Conclusion: The interpretation of the response to bronchodilator in the 20th minute after was the ideal time to assess the reversibility of ORD.