

Chronic Obstructive Pulmonary Disease (COPD)

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In this interview we are discussing the Chronic Obstructive Pulmonary Disease (COPD) in its basics, mainly oriented to create a general awareness on common queries associated with this condition.

Q. What is COPD? Is Chronic Bronchitis, Emphysema and COPD the same?

A. COPD, Emphysema and Chronic Bronchitis are overlapping conditions, but they are not the same. Chronic Bronchitis is diagnosed clinically when a person has a productive cough most days of the month, three months of a year for two consecutive years without any other alternate diagnosis. Emphysema is on the other hand a condition which can only be diagnosed pathologically when there exists a permanent dilatation and destruction of the airspaces beyond the terminal bronchiole. COPD on the other hand, stands for Chronic Obstructive Pulmonary Disease, which is a preventable and treatable disease, which is characterised by persistent airflow obstruction, which is generally progressive and associated with an enhanced chronic inflammatory response to noxious particles and gases, particularly cigarette smoking. Most patients diagnosed as COPD have Chronic Bronchitis and Emphysema and majority of the patients with Chronic Bronchitis and Emphysema have airflow limitation and thus COPD. Hence even though there is considerable overlap between the three diseases, they are not the same.

Q. When COPD can be diagnosed clinically, why should a Pulmonary Function test be insisted on?

A. Pulmonary Function Testing (PFT) in the form of spirometry is essential for the diagnosis of COPD. You can diagnose COPD only if the spirometry is done after nebulisation with a bronchodilator medication, and the post bronchodilator FEV1/FVC ratio shows a value

of less than 70%. Hence this test is essential for the diagnosis of COPD. However spirometry results are valid only if the patient has performed the test well, as per the instructions of the PFT technician, and should be interpreted along with the clinical and radiological details. Also, PFT is required for assessing disease severity and to determine which inhaled medication would be most appropriate for the patient. And inhaled gluco-corticosteroid is indicated only if the post bronchodilator FEV1 is less than 60% of predicted.

Q. Patients treated for Asthma and COPD often get similar or the same medications, so why is it necessary to diagnose these diseases separately?

A. Asthma and COPD are different diseases, though they have similar symptoms and their treatment appears similar. Asthma is a chronic inflammatory disease of the airways, associated with airway hyper-responsiveness and predominantly reversible airflow limitation. Whereas, COPD is characterised by largely irreversible airflow limitation, and is characterised by relentless progress of the disease. Asthma patients have better response to treatment and can be made near normal with the treatment offered, whereas the prognosis for the COPD patients is worse. The treatment for the two diseases is also different, inhaled gluco-corticosteroids being the mainstay in management of Asthma whereas the first-line treatment of COPD is with inhaled bronchodilators, and inhaled gluco-corticosteroids have a role only when the post bronchodilator FEV1 is less than 60% of predicted, or when there is high risk of exacerbations.

Q. Patients in India generally want to avoid inhalers, and their inhaler technique as well as their compliance is generally poor. So can't we use oral medications for COPD instead of inhalers?

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A. Inhaled medications are the best possible form of medication delivery for COPD. In COPD and Asthma, inhaled medications are almost always preferred because of the faster onset of action, lower dosage required, drug reaching directly to the site required, all of which lead to significantly lower adverse effects of the drugs and makes them safer for long term use. Alternative treatment can be given for COPD as tablets, but then these are associated with greater adverse effects and lesser benefit to patients. While it is true that a significant proportion of our patients have poor inhaler technique and compliance, these can be improved by counselling and repeated training and review. Hence inhaled medications should always be preferred over oral medications in COPD and Asthma.

Q. What management strategies, other than inhalers, are required for COPD treatment?

A. COPD needs both pharmacological and non-pharmacological treatment strategies. These mainly include smoking cessation, physical exercise or pulmonary rehabilitation, vaccinations, long term Oxygen in selected patients, and so on. Of these, the most important one is for the patient to stop smoking, and smoking cessation is the one treatment strategy which can halt the long term progression that is characteristic of COPD and provide survival benefit. Even though COPD patients have breathlessness on activity, often quite severe, they all will benefit from walking or other exercise or a structured pulmonary rehabilitation program. Vaccination for Pneumococcus and Influenza is also

recommended. Long term Oxygen therapy is indicated in a select group of COPD patients. COPD is generally associated with co-morbidities and management of these can improve outcomes in COPD patients.

Q. What is the prognosis for COPD patients?

A. COPD can't be cured. However it is a preventable disease and simple avoidance of smoking (active and passive) or domestic smoke can prevent the emergence of COPD, and this is useful even in patients who have already developed COPD. Drugs can relieve symptoms, reduce exacerbations (which are associated with mortality) and improve the quality of life of COPD patients, but they need to be used for a long term basis. Generally the airflow limitation in COPD is relentlessly progressive and the only two strategies with a definite survival benefit to COPD patients are smoking cessation and, in those in whom it is indicated; long term oxygen therapy.

Q. Which is the best inhaler device for COPD patients?

A. Generally almost all types of inhaler devices, if used properly, give similar deposition in the airways. Metered dose inhalers (MDIs) require very good hand breath coordination and Dry powder inhalers (DPIs) require adequate inspiratory flow. Both of these may be difficult in older COPD patients. Of the available devices, a MDI with a spacer device may provide the best ease of use and hence better drug delivery to the airways.