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Pathology Question:
What is COPD and how does it affect dental treatment
Report:
<p>COPD , or chronic obstructive pulmonary disease, is a term for chronic respiratory diseases that are characterized by airflow limitations from the lungs. The number one cause of COPD is cigarette smoking, and there is some genetic predisposition to developing COPD from smoking. Since smoking is the main cause, COPD patients have an increased risk of many oral health problems including, but not limited to: halitosis, periodontitis and oral cancer. Aside from smoking, COPD can also be caused by long term inhalation of pollutants, including both environmental and occupational.</p> <p>The two most common forms are chronic bronchitis and emphysema. Chronic bronchitis is when the bronchial walls are chronically inflamed, which eventually results in narrowing of small airways. There is also an overproduction of mucus, which can plug the airways. These factors cause obstruction on both inspiration and expiration. People with chronic bronchitis are often referred to as “blue bloaters” because of their clinical presentation of being breathless, cyanotic and edematous. Emphysema is caused by alveolar wall destruction from neutrophils as a result of inflammation of the tissue. The destruction of the alveolar walls results in larger airspaces and a loss of elastic recoil in the lungs. Without the elastic recoil, these larger airspaces collapse, causing obstruction on expiration. People with emphysema are often referred to as “pink puffers” due to their increased exertion to exhale, and they do not appear cyanotic.</p> <p>When treating someone with COPD in the dental setting, an assessment of the patient’s current condition should be made. If they are short of breath, have a productive cough, have an upper respiratory infection, or have an oxygen saturation level lower than 91%, treatment should be postponed. If they are pretty stable at the time, then care should be taken to avoid causing problems with their condition. Ways to avoid problems include: treating the patient in an upright or semisupine position, monitoring their oxygen saturation levels and having humidified oxygen readily available. Other dental considerations include avoiding bilateral nerve blocks with local anesthetic, as this can cause the patient to have the sensation that their airway is constricted, and avoiding the use of a rubber dam, as this can make it even more difficult for the patient to breathe. Nitrous oxide should also be used with caution in patients with chronic bronchitis, and shouldn’t be used at all in patients with emphysema, as it can accumulate in the enlarged air spaces. You should also avoid prescribing narcotics and barbiturates due to their respiratory depression properties. It is also important to be aware what medications these patients are taking to control their COPD that can potentially have oral side effects, such as corticosteroid inhalers.</p>
References:
Little, J. W., Falace, D. A., & Miller, C. S. (2007). Chapter 7: Pulmonary Disease. In <i>Dental management of the medically compromised patient</i> (pp. 92-97). St. Louis, MO: Mosby.