Transcript Details
This is a transcript of an educational program. Details about the program and additional media formats for the program are accessible by visiting: https://reachmd.com/programs/clinicians-roundtable/the-hidden-respiratory-burden-of-obesity-understanding-the-clinical-consequences/39650/

ReachMD
www.reachmd.com
info@reachmd.com
(866) 423-7849

The Hidden Respiratory Burden of Obesity: Understanding the Clinical Consequences

Announcer:
You're listening to *Clinician's Roundtable* on ReachMD. On this episode, Dr. Sujith Cherian will discuss respiratory risks in patients with obesity across clinical and surgical settings. Dr. Cherian is an Associate Professor in the Divisions of Critical Care, Pulmonary, and Sleep Medicine at University of Texas Health-McGovern Medical School. He also serves as the Director of Interventional Pulmonology and Pleural Diseases at Lyndon B. Johnson Hospital in Houston. Let's hear from Dr. Cherian now.

Dr. Cherian:
The effects of obesity on respiratory physiology are manyfold. Now, what does that translate to when you're taking care of patients in the clinic? What does that translate to when the patient is hospitalized, and whether they're inpatient or in the ICU? And how does it affect it in the perioperative standpoint?

Because of the effects that it has on respiratory physiology, the chances for going into respiratory failure are much higher, and this typically is because of the effect on the alveolar ventilation. And what I mean by alveolar ventilation is that there is more of a difficulty in lung mechanics. And because of the increased alveolar collapse or small alveolar collapse, what happens is there is an increased risk of hypercapnic respiratory failure. So now, what does that mean in the patient you're seeing in a clinic? Does that mean the patients are a lot more hypoxemic as well as hypercapnic? And patients tend to have a higher degree of obstructive sleep apnea. Patients tend to have obesity hypoventilation.

Now, when the patients get admitted, they have to be lying down for the most part, and then that results in increased hypoxemia and a need for increased supplemental oxygen. While the patients are in the ICU, there is a much higher chance for them to need the mechanical ventilator, and when they are on the mechanical ventilator, the duration of stay in the ICU and the duration of the mechanical ventilation also tends to increase significantly because of these physiological effects from the obesity.

Now, a 10 percent weight gain causes a six times higher risk of obstructive sleep apnea. And then the effects while a patient is on the mechanical ventilator are one, increased resistive load because of airway resistance; two, because of the poor compliance, there is an increased elastic load; and then, because of the increased threshold load, there is increased intrinsic PEEP, or positive end expiratory pressure. While there has not been a documentation of or consistent effect of a mortality being worsened, there is definitely a consistent effect of increased morbidity as well as an increased length of hospitalization.

Now, how does it affect the perioperative setting? What happens is, again, because of these effects, there is increased risk of perioperative hypoxemia, respiratory failure, and needing to be on the mechanical ventilator longer while in the post-operative setting—and because of that, increased need for ICU as well as hospitalizations secondary to all these.

And last but not least is the fact that it causes effects on the heart because it increases the coronary artery disease; it increases the chance for venous thromboembolism; and it increases the chance for pulmonary hypertension and consequent right heart dysfunction, which affects a patient's morbidity as well as length of hospitalization and increased complications from a perioperative standpoint.

Announcer:
That was Dr. Sujith Cherian discussing obesity and respiratory risks in different clinical settings. To access this and other episodes in our series, visit *Clinician's Roundtable* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!