

Malik Dauda

**THE EFFECTS OF INCREASED ABDOMINAL PRESSURE
ON ARTERIAL HYPERTENSION AND RESPIRATORY DISTRESS**

Tutor: professor Dotsenko E.,

professor Burakov I.I.

Department of Propaedeutic of Internal Diseases

Belarusian State Medical University, Minsk

The scientific and medical community has recently started to pay more attention to the impacts that increased abdominal pressure can have in an intensive care unit (ICU). Over the course of the previous five years, there has been an upward trend in the quantity of research that discusses the consequences of IAP.

Patients who are critically sick, particularly those who are being treated in the intensive care unit, are more likely to develop the complication known as increased abdominal pressure. The measurement of INTRA-ABDOMINAL pressure, also known as IAP, has emerged as an essential consideration in the postoperative care of patients who have undergone abdominal surgery. The fact that intra-abdominal hypertension (IAH) has been shown to be associated with abdominal compartment syndrome has led to an increase in the significance of this condition. Although trauma is the most common cause of ACS, the condition can also be brought on by intestinal infarction or ischemia. Conditions that aren't caused by injuries, like coagulopathies that cause abdominal bleeding or cirrhosis, can also lead to an increase in pressure within the abdominal compartment. When the inflammatory response causes capillary permeability, which enables fluid to leak out of the blood vessels and into the tissues of the abdomen, this pressure increases even further. It is possible for it to bring on a wide range of life-threatening complications, such as arterial hypertension, respiratory distress, and even mortality. The compliance of the abdominal wall and the amount of the organs contained within it are the primary factors that determine the pressure inside the abdomen, which is referred to as intra-abdominal pressure or IAP. The abdominal compartment is a closed space that is capable of stretching up to a certain point; however, when tissue fluid (edema or retroperitoneal blood), for example, accumulates in large quantities that surpass this compliance threshold, it can cause an increase in pressure within the abdominal compartment. This can occur when the compliance threshold is exceeded. This rise in pressure prevents the organs from receiving adequate amounts of blood and oxygen, which can eventually result in the failing of multiple organs. On the other hand, complications can be avoided if the disease is detected early.

It is well established that an increase in abdominal pressure leads to a reduction in preload circumstances as well as in the amount of cardiac filling pressure that is measured. Because of this compression of the basal lung regions, the functional residual capacity (FRC) and the general cardiac output are both reduced when the intracardiac pressure rises. On the other hand, Positive End Expiratory Pressure (PEEP), which helps facilitate regional respiration in lung zones that are dependent on it, could be used to mitigate the effects of this phenomenon. Additionally, an increase in abdominal pressure can also produce transmural pressures, which can have an effect on respiratory function. This is accomplished by inducing a compression of the diaphragm and the pleural cavity, which, in turn, leads to an increase in gastric pressure and further reduces preload conditions. It is possible that this will result in an increase in both the observations of cardiac filling pressure and positive end-expiratory pressure. (PEEP). In addition, PEEP may be utilized to minimize the compression-induced cranial shift of abdominal contents and to diminish gastric pressures, both of which may facilitate the regional ventilation of lung zones that are dependent.

This report's objective is to discuss the significance of the topic of how even slight elevations in abdominal pressure can have catastrophic effects on the body and, in some instances, lead to the failing of multiple organs. Additionally, the report will demonstrate the effects of these elevations. Patients who are critically sick can benefit from diagnostic procedures that, when combined with decompression laparotomy, have been shown to lower the pressure inside the abdomen and speed up the healing process.