

ASPHYXIA

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Asphyxia is a medical term used for death due to a lack of oxygen supply to the lungs. In other words, it is a condition where oxygen is replaced by other gases such as carbon monoxide, CO₂ (Carbon dioxide), etc. Asphyxia is found in cases such as hanging, suffocation, strangulation, traumatic asphyxia, choking, gagging, and drowning. The lack of oxygen partially is known as hypoxia and the complete lack of oxygen is known as anoxia these conditions can cause death. In a properly ventilated room, the oxygen concentration is 21%, when the oxygen level decreases to 10-15% a person's motor function manifests. When the concentration reaches below 10% a person loses consciousness, whereas death usually occurs at a concentration level of less than 8%. The tolerance to asphyxia varies with an individual's age, adaptation to the environment, and medical history. People having a history of cardiovascular pulmonary or lung diseases are more vulnerable to dying soon compared to a normal healthy individual. The respiratory, vascular, and the nervous mechanism are affected mainly.

Fig.1: Asphyxia



STAGES OF ASPHYXIA:

1. Decrease the amount of oxygen availability
2. Reduced transfer of air to blood
3. Reduced transport from lungs to tissue
4. Reduced transfer across the cell membrane

GENERAL POST-MORTEM FINDINGS:

1. Cyanosis: It is a condition in which a bluish coloration of the skin occurs due to poor circulation as a result of a lower concentration of oxygen in the blood. The colour change can be noticed within 24-48 hours. The colour saturation will be high in regions that are rich in blood capillaries.
2. Petechial haemorrhage: It is rupturing of the blood capillaries that results in a reddish rashes-like appearance.
3. Cardiac dilation: Due to the unavailability of O₂ (oxygen) tissues in the heart beings to stop functioning. The condition in which the left ventricle (main pumping chamber) is enlarged, affects the ability to pump resulting in heart failure.
4. Fluidity in blood: Increased capillary permeability results from a combination of stasis and hypoxia. Stasis refers to the reduction in the viscosity of blood. This results in fluidity in the blood.

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