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**Nursing Interventions for Intradialytic Hypoxemia in Hemodialysis Patients**

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**Background:** Kidney disease is associated with impaired respiratory function, including ‘cardio-respiratory-renal’ syndrome and central sleep apnea. While highly prevalent, hypoxemia during hemodialysis (HD) is rarely recognized as a clinical problem.

**Methods:** We investigated several patient case vignettes regarding their oxygen saturation (SatO<sub>2</sub>) during HD and its relation to clinical signs. We annotated the value of actual nursing interventions and suggested venues that may lead to improved patient care.

**Results:** The case vignettes include the following observations: 1) Sleeping while dialyzing occurs frequently. We show a vignette of sleep with intradialytic hypoxemia that leads to hypotension and early treatment sign off. 2) Improved SatO<sub>2</sub> occurred with ultrafiltration (UF), likely due to improved alveolar diffusion (Campos et al., 2016). 3) A sharp decline of both, relative blood volume (RBV) and SatO<sub>2</sub> was detected in a patient who removed the nasal oxygen supply. This effect was reverted when the nurse replaced the oxygen nasal cannula. 4) Muscle cramping and hypotension may coincide with drops in central venous oxygen saturation (ScvO<sub>2</sub>) and RBV (Campos et al., 2016). Reducing the UF, applying oxygen via nasal cannula, and recalculating the goal resulted in improved patient’s symptoms, RBV and SatO<sub>2</sub>. This patient was able to complete the treatment without further incident and had an additional weight of 0.2kg added to the goal. 5) Eating while on HD resulted in a decline of both SatO<sub>2</sub> and RBV. 6. Lastly, a vignette showed a patient that had a significant drop in ScvO<sub>2</sub>. Responding to the drop in ScvO<sub>2</sub> prevented a morbid event.

**Conclusion:** Our clinical observations suggest that intradialytic hypoxemia can lead to intradialytic morbid events and may warrant closer clinical attention. Nursing interventions and educating the patient about eating habits and fluid intake may lessen unwanted events and lead to improved HD treatments.

Campos, I., Chan, L., Zhang, H., Deziel, S., Vaughn, C., Meyring-Wosten, A., & Kotanko, P. (2016). Intradialytic hypoxemia in chronic hemodialysis patients. *Blood Purification*, 41, 177-187.

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