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Review of Obstructive Sleep Apnea and the Peri-Operative Management of Patients in A Resource-Limited Setting

*Révision de L'apnée Obstructive du Sommeil et de la Gestion
Péri-opératoire des Patients dans un Contexte à Ressources Limitées*

^{1*}A. K. Ojo, ²M. A. Komolafe, ¹T. A. Ojumu, ³A. S. Raji, ¹O. I. Aaron, ¹A. O. Adetoye

ABSTRACT

Obstructive sleep apnea (OSA) patients suffer from recurrent asphyxia, airway obstruction, and hypoxia. Poor awareness among Africans precludes diagnosis and pre-surgery optimization. Vital diagnostic tools such as polysomnography (PSG) are largely inaccessible to patients and anesthesia providers in low-resourced countries. In particular, Africans have genetic, inflammatory, and social-cultural factors predisposing them to sleep difficulty. The perioperative mortality risk in OSA patients has a linear relationship with the disease severity. Anesthesia considerations including difficult airway, desaturation, ventilatory failure, and inadvertent intensive care unit (ICU) admission, promote perioperative fatality. This article reviews the diagnosis, anesthesia concerns, optimization, and perioperative management of OSA in poorly resourced settings.

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Keywords: Obstructive Sleep Apnea, Anesthesia, Low resource, Perioperative risk, Complications, Africa

RÉSUMÉ

Les patients atteints d'apnée obstructive du sommeil (OSA) souffrent de récurrentes asphyxies, d'obstruction des voies respiratoires et d'hypoxie. La mauvaise sensibilisation parmi les Africains empêche le diagnostic et l'optimisation pré-chirurgicale. Les outils diagnostiques vitaux tels que la polysomnographie (PSG) sont largement inaccessibles aux patients et aux prestataires d'anesthésie dans les pays à faibles ressources. En particulier, les Africains ont des facteurs génétiques, inflammatoires et socio-culturels les prédisposant aux difficultés de sommeil. Le risque de mortalité périopératoire chez les patients atteints d'OSA présente une relation linéaire avec la gravité de la maladie. Les considérations anesthésiques, y compris les voies aériennes difficiles, la désaturation, l'échec ventilatoire et l'admission involontaire en unité de soins intensifs (USI), favorisent la mortalité périopératoire. Cet article passe en revue le diagnostic, les préoccupations anesthésiques, l'optimisation et la gestion périopératoire de l'OSA dans des contextes mal dotés en ressources.

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MOTS-CLÉS : Apnée obstructive du sommeil, Anesthésie, Faibles ressources, Risque périopératoire, Complications, Afrique

¹Department of Anaesthesia and Intensive Care, Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Nigeria

²Department of Medicine, Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Nigeria

³Department of Anaesthesia, Faculty of Clinical Sciences, College of Health Sciences, Ladoke Akintola University of Technology, Ogbomosho, Nigeria.

Corresponding Author: Dr. A. K. Ojo, Department of Anaesthesia and Intensive Care, Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Nigeria. Telephone: +2348034360925, Email: abayomiojo2002@gmail.com

Abbreviation: OSA: Obstructive Sleep Apnea; ODI: Oxygen desaturation index; PSG: polysomnography (PSG); RERA: Respiratory effort-related arousal; RDI: Respiratory Disturbance Index; SDB: Sleep-disordered Breathing; ICU: Intensive care unit; CPAP: Continuous Positive Airway Pressure; AO: Airway obstruction; IHD: Ischaemic heart disease; MI: Myocardial Ischaemia; HF: Heart Failure; RVD: Right Ventricular Disease; LVD: Left Ventricular Disease; DM: Diabetes Mellitus; EDS: Excessive Daytime Sleepiness; OAD: Obstructive Airway Diseases; CHF: Congestive Heart Failure; CVD: Cerebrovascular disease