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A.41 Sevoflurane

MSF strongly supports the inclusion of sevoflurane in the Core List of the Section 1 "Anaesthetics, preoperative medicines, and medical gases", in the WHO Model List of Essential Medicines (EML), as an inhalational gas for the treatment of adult and paediatric patients.

MSF has been using inhalational anaesthetic gases for decades as part of its medical programs to provide anaesthetic care for surgery, and procedural sedation with upwards to 110.000 procedures each year[1].

Currently, there are only two volatile inhalational anaesthetic agents, halothane and isoflurane, included in the EML. Similarly, MSF uses both as standard anaesthetic agents. However, MSF has been actively phasing out halothane in favour of isoflurane over the last decade. Halothane remains used as a second choice wherever supply or delivery systems for isoflurane are absent. Sevoflurane has been introduced in certain programs where appropriate delivery systems are available onsite or can be sourced easily.

While isoflurane causes less hepatic failure than halothane, and has advantages for maintenance, it is unsuitable for induction of anaesthesia and the trend towards phasing out halothane would result in creating a gap particularly in paediatric anaesthesia where inhalational induction is essential[2].

Sevoflurane has a rapid onset and offset of action and few adverse effects compared to other inhalational agents with less airway irritation and a favourable cardiovascular profile[3]. Sevoflurane has the potential to replace older inhalational agents based on its profile, availability from multiple manufacturers and cost-effectiveness. It also presents the advantage of reducing emission of greenhouse gases, therefore reducing the overall anaesthesia carbon footprint.

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[1] Médecins Sans Frontières, International Activity Report – 2021. Available at : https://www.msf.org/international-activity-report-2021

[2] Kharasch, E. D. "Adverse drug reactions with halogenated anesthetics." Clinical Pharmacology & Therapeutics 84.1 (2008): 158-162.

[3] Goa KL, Noble S, Spencer CM. Sevoflurane in paediatric anaesthesia: a review. *Paediatr Drugs.* 1999;1(2):127-153.

However, MSF would like to draw the attention of the Expert Committee to some considerations that need to be taken into account beyond the inhalational anaesthetic agent itself.
Firstly, cost analysis comparisons are mainly based on use of sevoflurane on low fresh gas flow or closed circuits. This can hardly be achieved safely on older anaesthesia machines, and therefore one can expect an increase in overall costs of inhaled anaesthesia.
Secondly, the lack of gas analysers and appropriate CO_2 absorbents in many low-and middle-income countries (LMICs) can contribute to an increase in emissions of gases in the atmosphere.
Thirdly, specific vaporizers are required to administer sevoflurane and therefore efforts should be made to ease access to and maintenance of quality specifically calibrated vaporizers for sevoflurane.

MSF would like to emphasize to the 24th Expert Committee on the Selection and Use of Essential Medicines, the necessity to advocate for a wider availability of means of administration (vaporizers), monitoring (gas analysers) and absorption (scavenging systems).

MSF urges the 24th Expert Committee on the Selection and Use of Essential Medicines to include sevoflurane as inhalational anaesthetic, in the Core List of the Section 1 “Anaesthetics, preoperative medicines, and medical gases” in the WHO Model List of Essential Medicines. MSF recommends to the 24th Expert Committee on the Selection and Use of Essential Medicines to include also sevoflurane in the WHO Model List of Essential Medicines for Children.

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