

Institute for Safe Medication Practices

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Benzocaine Spray Products May Cause Life-Threatening Condition *Archives Article Explores Methemoglobinemia Associated with Benzocaine*

HUNTINGDON VALLEY, Pa.—The commonly-used anesthetic benzocaine may inhibit red blood cells' capacity to carry oxygen, which in some cases can result in cyanosis and life-threatening complications. An article in the June 14, 2004 issue of *Archives of Internal Medicine*, authored by the Institute for Safe Medication Practices (ISMP), analyzes adverse event reports regarding benzocaine products that have been submitted to the U.S. Food and Drug Administration.

According to ISMP, most recently reported cases of benzocaine-induced methemoglobinemia (MHb), which is characterized by abnormal levels of oxidized hemoglobin that cannot bind or transport oxygen, have occurred in the hospital setting in connection with intubation, endoscopic, or bronchoscope procedures. Prior to those procedures, a spray dosage form of benzocaine is often used to anesthetize the patient's oropharynx and suppress the gag reflex.

MHb presents a particularly dangerous challenge to health professionals in terms of clinical diagnosis. Despite rising methemoglobin levels, arterial blood gas or pulse oximetry readings can be near normal. Unless physicians are aware of this, valuable time can be wasted before a direct measure of methemoglobin is obtained through cooximetry. Treatment involves immediate administration of 1 to 2 mg/kg of methylene blue.

Administering a correct dose of benzocaine is complicated by the fact that it is difficult to accurately time a spray (listed doses range from 0.5 second to 1 second sprays) and variations in the amount dispensed may occur due to canister position and amount of remaining contents.

ISMP has suggested that a metered dose and more prominent package warning about MHb would enhance the safety profile of benzocaine products. For more details, visit ISMP's web site at www.ismp.org.

About ISMP: The Institute for Safe Medication Practices (ISMP) is a 501c(3) nonprofit organization that works closely with healthcare practitioners and institutions, regulatory agencies, consumers, and professional organizations to provide education about medication errors and their prevention. ISMP represents nearly 30 years of experience in helping healthcare practitioners keep patients safe, and continues to lead efforts to improve the medication use process. In 2004, the Institute is celebrating the 10th anniversary of its official incorporation as a nonprofit organization. For more information on ISMP, or its medication safety alert newsletters for healthcare professionals and consumers, visit www.ismp.org

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