44503 - DESFLURANE HEPATOTOXICITY IN AN INFANT

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Purpose: Halogenated anesthetic agents have been associated with perioperative liver dysfunction and injury. Most cases of hepatotoxicity reported involve halothane exposure. Halothane produces two types of hepatotoxicity. A mild, transient syndrome with modest increase in transaminase enzyme occurs in 20% of patients given halothane (1). A more severe and fulminant hepatitis with marked liver dysfunction, jaundice, encephalopathy and even death is observed in 1/20,000 anesthetic exposures to halothane (2). Cross-sensitization between volatile agents have been previously reported. To date, only four cases of hepatotoxicity in adults were related to desflurane exposure (3-6). Previous volatile exposure included isoflurane, sevoflurane, halothane, and cyclopropane. We report the case of a young child with Mobius syndrome who developed acute hepatotoxicity after desflurane anesthesia in the context of two prior isoflurane exposures.

Clinical Features: A 15 month old with Mobius syndrome developed acute liver injury after Desflurane exposure for Nissen funduplication procedure. Serum alanine aminotransferase (ALT), aspartate aminotransferase (AST) and international normalised ratio (INR) respectively peaked at 6180U/l, 6080U/l and 2.7. This patient had two prior exposures to isoflurane when undergoing tracheoesophageal fistula repair and gastrostomy placement. Other causes of liver diseases were excluded, such as viral, autoimmune, metabolic and organic causes. Patient had a good outcome. Parental consent was obtained.

Conclusion: Temporal relationship between exposure and liver injury is consistent with Desflurane hepatotoxicity in our patient. The likelihood of suffering post-operative immune hepatitis depends on the amount of anesthetic metabolised (7). Desflurane and isoflurane produce low level of trifluoroacetylated (TFA) product, this small amount is sufficient to induced hepatotoxicity particularly in sensitized patient (6). Liver injury following a surgical procedure under general anesthesia is very rare. Volatile cross-sensitization between halogenated agents has to be considered even in small children.

Références:

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