Nitrous oxide

Most Inhalational agents reduce cerebral metabolism (except nitrous oxide) by suppressing neuronal activity. These agents disturb cerebral autoregulation and cause cerebral vasodilatation, which increases cerebral blood volume (CBV) and can increase ICP. With administration > 2 hrs they increase CSF volume, which can also potentially contribute to increased ICP. Most agents increase the CO2 reactivity of cerebral blood vessels. These agents affect intraoperative EP monitoring

A potent vasodilator that markedly increases CBF and minimally increases cerebral metabolism. Contributes to post-op N/V.

Pneumocephalus after Nitrous oxide

Pneumocephalus after Nitrous oxide.

Nitrous oxide, commonly known as laughing gas, nitrous, nitro, or NOS is a chemical compound with the formula N 2O. It is an oxide of nitrogen. At room temperature, it is a colourless, non-flammable gas, with a slightly sweet odour and taste. It is used in surgery and dentistry for its anaesthetic and analgesic effects. It is known as "laughing gas" due to the euphoric effects of inhaling it, a property that has led to its recreational use as a dissociative anaesthetic. It is also used as an oxidizer in the launching of rockets and in motor racing to increase the power output of engines. At elevated temperatures, nitrous oxide is a powerful oxidizer similar to molecular oxygen.

Nitrous oxide gives rise to nitric oxide (NO) on reaction with oxygen atoms, and this NO in turn reacts with ozone. As a result, it is the main naturally occurring regulator of stratospheric ozone. It is also a major greenhouse gas and air pollutant. Considered over a 100-year period, it has 298 times more impact per unit mass (global warming potential) than carbon dioxide.

It is on the WHO Model List of Essential Medicines, the most important medications needed in a health system.

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