SUMMARY

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Prior to 1846 anesthesia was a primitive concept and surgical procedures necessarily limited and mortality are frequent. With Morton's public demonstration of ether anesthesia in 1846, the field of medicine was revolutionized. Many inhalational anesthetic was discoverd after ether such as chloroform in 1847 and cyclopropane in 1929.

Cyclopropane was perhaps the most widly used general anesthetic for the next 30 years, However with the increasing risk of explosion in the operating room brought about need for a safe, nonflammable anesthetic increased and several groups pursued the search efforts were recorded by the development of halothane; a nonflammable anesthetic agent was introduced into clinical practice in 1956, it revolutionized inhalation anesthesia. Most of the newer agents, which are halogenated hydrocarbons and ethers are modeled after halothane, the most promising is sevoflurane which already is used extensively in some parts of the world.

Sevoflurane (Fluoromethyl 2,2,2- trifluoro –1- [trifluoro-methyl] ethyl ether) is a nonflammable, non irritating agent, MAC is 2% boiling point 58.5°C and vapour pressure 21 Kpa (157 mm) at 20°C. Blood-gas partition is also very low- 0.6 and the fat-blood partition coefficient is 48, Making induction and elimination rapid. It is unstable with warm sodalime, a property which would limit its usefullness. Sevoflurane has actions on different body organs and systems. On central nervous system it produce significant changes in mental function, decrease cerebral metabolic rate and produce cerebral vasodilatation and increase in cerebro-spinal fluid pressure, on respiratory system, sevoflurane cause

respiratory depression in dose relating manner. Decrease respiratory rate. Decrease tidal volume and has bronchodilator effect. On cardiovascular system sevoflurane produce hypotension due to vasodilatation. It causes myocardial depression, decreased oxygen consumption and blood flow to liver, kidneys and gut. No change in heart rate. Sevoflurane decrease glomerular filtration rate with reduction of urine out put secondary to decrease renal blood flow. On the liver sevoflurane very rarely associated with hepatic injury and the blood supply to liver is decreased. Sevoflurane appears to maintain plasma insulin at preanesthetic levels more consistently than other inhaled agents.

The advantages of sevoflurane over other inhalational anesthetic are rapid induction, rapid recovery, less irritating to the airways and does not increase heart rate. The disadvantages of sevoflurane are expensive, causes post operative delirium, respiratory depression, hypotension and decrease urine out put. Also, sevoflurane is unstable with worm soda lime, a property which would limit its usefulness also sevoflurane is very rarely associated with hepatic or renal injury.

CONCLUSION

Sevoflurane appear to be significant advances over the available present agents. The advantages of sevoflurane are rapid induction, rapid recovary less irritating to the airways and does not increase heart rate.

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