

HISTORY OF ANAESTHESIA

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Anaesthesia, as we know today, is a complex specialty with traceable origins dating back 165 years. In fact, the public demonstration of ether anaesthesia on October 16, 1846, ranks as one of the most significant events in the history of medicine. However, no single individual can be said to have discovered anaesthesia and various individuals have contributed towards the growth of this specialty which now needs the anaesthesiologist to have such varied skills as expertise in resuscitation, fluid replacement, airway management, oxygen transport, operative stress reduction & postoperative pain control.

Historically, anaesthesia has evolved from the use of early analgesics & soporifics like Mandragora (soporific sponge), cocoa leaves, opium, alcohol, ether (known perhaps as early as the eighth century) & nitrous oxide (probably the only drug still being used more than 150 years after its discovery) to the truly modern anaesthetics in the form of desflurane, sevoflurane & xenon. Early interest in anaesthesia centred on inhalational agents (gases) and it was only after the invention of the hypodermic syringe by Alexander Wood in 1858 that intravenous drugs became popular.

Early accounts of anaesthesia are not very well documented and it is only towards the latter half of the 19th century that anaesthesia started making rapid progress with various gases & intravenous drugs becoming the subject of interest. Various persons who contributed to the field of anaesthesia include Theodoric of Cervia (1205-1296), Paracelsus (1493-1541), Valerius Cordus (1515-1544), Joseph Priestley (1776), Humphry Davy (1778-1829), Henry Hill Hickman (1800-1830), Charles A Jackson (1804-1880), William E Clarke (Jan 1842), Crawford Williamson Long (Oct 1842), Horace Wells & Gardner Quincy Colton (1845). However, it is William Thomas Green Morton who is largely credited with the first successful public demonstration of anaesthesia when he used ether (which he called *letheon*) for the painless removal of a vascular tumour from the neck of the patient, Edward Gilbert Abbott. So enamoured was the chief surgeon John Collins Warren, by the success of the anaesthetic that at the end of the procedure, he turned towards the audience at the Bullfinch Amphitheatre of the Massachusetts General Hospital, and proclaimed those historical words which have now become part of anaesthetic folklore, "Gentlemen, this is no humbug".

After this demonstration, there was rapid progress with other agents coming into use & soon being discarded for one reason or the other. These included Chloroform (which was introduced into clinical practice within a year of the demonstration of ether, in Sept 1847), Ethyl Chloride (last agent to be introduced in the 19th century), Ethylene (1923), Divinyl Ether, Cyclopropane (1934), Trichloroethylene (1935) and Fluroxene (1953).

However, the truly modern anaesthetic age began with the introduction of Halothane in clinical practice by Michael Johnstone in 1956. This led to an increased interest in fluorinated compounds since they were safer, non-flammable & more potent than the hitherto used compounds. Since the synthesis of halothane by Charles Suckling in 1954, more than 700 fluorinated compounds were synthesised by Ross C Terrell between 1960 & 1980, out of which, isoflurane & desflurane are still being used whereas methoxyflurane & enflurane have largely been discarded. The last of the modern inhaled anaesthetics, sevoflurane, was synthesised more than 40 years ago at Travenol Laboratories but was not used until the 1980s. Following its huge

success in Japan in the 1990s, it was subsequently introduced in USA & other countries and continues to be used widely.

The problem with the halogenated compounds was that most of them are chloro-fluoro-carbons & thus contribute to the Greenhouse Effect. This is reason enough to wean out even isoflurane from clinical practice to be replaced by purely fluorinated compounds like desflurane & sevoflurane. Another gas showing much promise is Xenon, which by virtue of being inert and environment friendly, will definitely have a place in the future, though it is still struggling to find its feet in the world of anaesthesia, being expensive & difficult to procure.

Together with the development of the inhaled gases, intravenous drugs like Thiopental, Curare & Propofol have contributed massively towards making anaesthesia safer (but then, that is a different story altogether). Now with scented masks & fruit flavoured lozenges becoming available, gone are the days of old when surgery conjured up dreadful images in the mind of a patient & the patient dreaded the effects of surgery more than the disease condition itself. Modern anaesthesia should be “a pleasant experience” and patients need not fear the operation theatre anymore.



Early depiction of a surgical procedure, with the patient being held down by several people while the surgeon operates.





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