VAPORISERS

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Early vaporisers

Vaporizer rather than the word inhaler is used when we are talking of inhalational anaesthesia by continuous flow anaesthetic machines. Component parts of some early vaporizers, which have not been completely deciphered, are also on exhibit. They are Bernoy's ether vaporizer (1), Ogeston's chloroform vaporizer (2), Ohio no.8 ether vaporizer (3).

1

2

3

The most common vaporizers incorporated in the anaesthetic machines available in India were the Boyle's ether and trilene bottles. Many other vaporizers became popular before the tec series of vaporizers became standard. Though popular during the early 1970's they are still being used in many places.

Goldman vaporiser

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Victor Goldman initially designed this in 1962 for administering halothane by intermittent flow machines (e.g. Walton V) for dental surgery. In India and the Armed Forces it found its maximum utility in continuous flow machines as a plenum vaporiser and as a drawover vaporizer in portable anaesthetic apparatus. Its use in closed circuit anaesthesia (VIC) in a spontaneously breathing patient has been described, but we don't see it being used in this fashion. Its calibration at 30, 8 and 2 min^{-1} is therefore designed for its use in a particular circuit. Till date four versions of the vaporizers have appeared. The Mk IV has four notches and lever for change in concentration was made into a clicking device. In India prototypes of the same were manufactured by Khushwaqt and anaesthetics because of the exorbitant cost of thermocompensated vaporizers and introduction of halothane in the Indian market. They are still in use where sophisticated machines have not reached.

Goldman type vaporizers

The one manufactured by Khushwaqt Industries. It is similar to Mk III of the original Goldman series.

And the one manufactured by Anaesthetics, except for size the design is quite different in that it has a screw on bottle, which tends to invariably chip at the screws.

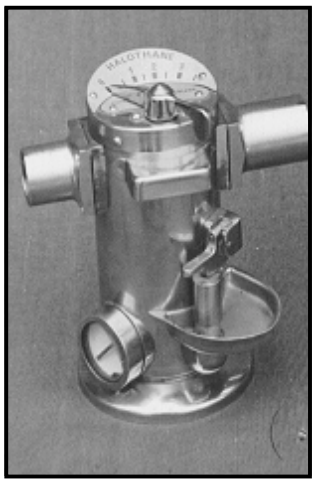
Some of the next generation vaporizers were the OMV, AE Vaporizer, EMO inhaler, and the PDV. All of these had low internal resistance and could therefore function as draw over vaporizers. Another added feature was that

apart from the primary agent these vaporizers incorporated scales for other agents.

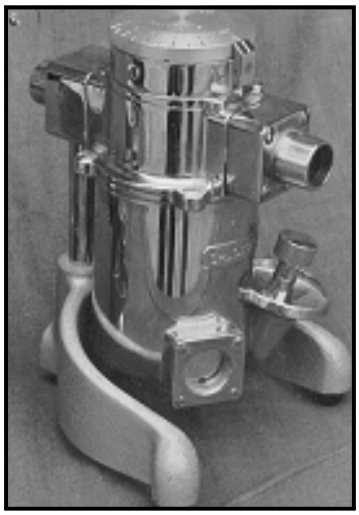
Oxford miniature vaporizer (OMV)

Was designed for halothane but has a scale for trilene. Two versions of OMV exist; OMV Fifty (Lt to Rt) for use in continuous flow machines and OMV Ten (Rt to Lt) for use in draw over anaesthetic apparatus. Facility for temperature stabilisation exist in this vaporiser.

AE vaporizer



Manufactured by 'Cyprane' this was designed for halothane but has a dial for chloroform and trilene.



It is a temperature compensated vaporizer. Chloroform is probably as good as an anaesthetic as halothane but it fell into disrepute and lost popularity altogether since accurate vaporizers for its delivery did not exist when it was introduced. This vaporizer probably marked the reintroduction of chloroform but never got a foothold.

Penlon Draw over Vaporizer (PDV)

Had been designed for methoxyflurane and has an additional scale for trilene. It was at one time popular in the Armed Forces forward surgical units. Its use declined with the withdrawal of methoxyflurane due to its flouride toxicity.

Earlier use of a single vaporizer that could be used for multiple agents was a desirable property of an ideal vaporizer.