

VAN DIE REDAKSIE : EDITORIAL

DIE WONDER VAN HALOTAAN

Daar is verskeie wonderde in verband met halotaan. In die eerste plaas moet ons die ontstaanswonder noem — die verbasende vernuf waarmee die navorsingspersoneel van Imperial Chemical Industries Ltd. veral die werk van Ferguson en Mullins¹ uitgebuit het om tussen 1951 en 1955 doelbewus 'n nuwe narkosemiddel bloot teoreties² te skep, wat sekere eienskappe sou besit wat die beskikbare narkosemiddels nie gehad het nie. Daar was destyds inderdaad 'n groot behoefte in die narkose aan 'n middel wat chemies nie-toksies sou wees, geen ontvlambare of ontploffingsmoontlikhede sou inhou nie, maar tog kragtig genoeg sou wees om die chirurgiese narkosetoestand spoedig te bewerkstellig en ewe gou die pasiënt te laat herstel.

Die tweede wonder geld die snelle erkenning van die nuttigheid, en terselfdertyd die unieke gevare, van trifluorchloorbrometaan (fluothane³). Die menigte sterfgevallen as gevolg van 'n oordosering tydens die induksie van narkose is vandag, ses jaar nadat halotaan die eerste keer klinies gebruik is, omtrent geheel-en-al 'n saak van die verlede. Die rede hiervoor is eenvoudig net dat daar nou vry algemeen aanvaar word dat 'n mens bewus moet wees van die konsentrasie van halotaandamp wat aan 'n pasiënt toegedien word.

Die wonder van halotaan kom veral in sy soepele en universeel-toepasbare gebruik aan die lig. Dit is deur alle metodes beskikbaar vir narkosedamp-toediening in die kliniek. Die oop-druppel tegniek, waarmee suurstof-toediening gewoonlik gepaar word, is veral gebruik vir die induksie en instandhouding van narkose in babas en klein kindertjies. Die half-ooop en half-toe metodes het oral byval gevind, en hiervolgens word minstens drie liters per minuut suurstof en laggas gebruik om buitekant die asemhalingsstelsel die halotaandamp op te vang. Vir die ervare deskundige is dit moontlik om indrukwekkende besparing te beoefen deur die drie geslote-sisteme metodes in te span, maar dit bly gevaarlik, veral met die verdamperbottel binne die asemhalingsstelsel self ingeskakel. Oor-trekkings- en nie-terugkeersisteme is ook suksesvol gebruik.

Halotaan is herhaaldelik vir alle soorte chirurgiese ingrepe in pasiënte in alle ouderdomsgroepe, met alle moontlike patologiese komplikasies, gebruik in samehang met talle ander narkosemiddels en spierverslappers, alhoewel 'flaxedil' (gallamine) verreweg die veiligste spierverslapper is om te kombineer met halotaan. In die torakale chirurgie is die brongiolêre verslappende uitwerking uitgebuit, veral in gevalle van emfiseem. Alhoewel die induksie van hipotermie vergemaklik word deur halotaan, is daar onlangs vasgestel dat halotaan nie slegs 'n geringe ganglion-blokkende uitwerking het nie, maar boonop die vitale senters, die arteriolêre vatwand self, en beslis ook die miokardium direk onderdruk, in direkte verhouding tot die dieptekeer van die narkose (soos in die geval van al die ander algemene narkosemiddels).

In die neurochirurgie veral is daar talle gunstige rapporte oor die *azeotroop*, 'n nuwe los chemiese stof wat

vorm wanneer gewone di-etieseleter *eerstens* in 'n bottel geplaas word, en halotaan dan bygevoeg word in die verhouding van 68:3 tot 31:7 v/v halotaan tot eter. Twee van die mees vooraanstaande narkotiseurs in die wêreld vandag beskou hierdie stof veiliger vir algemene gebruik as skoon halotaan.³ In Saskatoon se hospitale van die Universiteit van Saskatchewan (Kanada), is oor die 4,000 narkoseprosedures suksesvol deurgevoer deur personeel in alle stadiums van opleiding met behulp van die azeotroop, en *sonder spesiaal-gekalibreerde verdampers*. Die Kanadese werkers het bewys dat beide die kardiovaskulêre en asemhalingsstelsels meer bestendig en normaal is met azeotroop as met suiwer halotaan.

Met noukeurige aandag aan die presiese volumes eter en halotaan in die voorbereiding van azeotroop kan op laasgenoemde se nie-ontvlambaarheid en nie-ontplofbaarheid staatgemaak word. Sy grootste voordeel is dat dit in die 'trilene'-bottel van Boyle se masjien gebruik kan word. Die vertikale dompelaar moet egter liefst glad nie afgedruk word nie, nes in die geval van chloroform en trilene, en die pols en bloeddruk moet gedurigdeur trou doggehou word.

Afgesien van die kwasi-gereelde hipotensie met die induksie is daar nog die moontlike strikval van 'n sterk verslappende uitwerking op die swanger baarmoeder,⁴ en tubokurarien en neostigmien in volle dosisse sal dikwels sirkulasie-ineenstorting teweegbring in die teenwoordigheid van halotaan. Chronotropiese vasopressors, dikwels benodig, lok maklik aritmie uit. Ganglionblokkers geniet 'n oorweldigende potensiasie. Koolsuurgas hoop dikwels op weens ontoereikende asemhalingsbewegings, en die miokard word buitendien sensitief vir die uitwerking van adrenalin, endoëen of binnears toegedien. Dié neigings dien bekamp te word.

Die laaste wonder van halotaan is onteenseglik die geweldige literatuur wat dit die afgelope ses jaar as gevolg gehad het. Afgesien van drie omvattende uiteensettings in die narkosetydskrifte^{5,6,7} is daar nou 'n monograaf⁸ sowel as 'n monumentele boek van meer as 500 bladsye⁹ beskikbaar. Afgesien van die noukeurige toesig wat gebiedend noodsaaklik is gedurende halotaan-narkose, skrik die nog steeds hoë prys van halotaan nog talle dokters daarvan af om hierdie uiters nuttige middel te gebruik. Dikwels gebruik hierdie kollegas nog chloroform en eter; die eersgenoemde veel gevaarliker as halotaan, en eter beslis soveel meer onaangenaam in sy nasleep. Dit is egter 'n feit dat die hoë prys van halotaan, hoe betreurenswaardig ook al, dikwels in Suid-Afrika (soos dikwels ook elders) tog eter, chloroform of trichlooretileen verkieslik maak vir die chirurgie. Miskien sal die nuwe metoksifluorane ('penthane'), ten spyte van sy beperkte verbruikgebied, tog deur wedywering en reklame 'n goedkoper metode in die vervaardiging van halotaan meebring. Vir kort operasies sal halotaan egter vir baie jare onoortreflik bly.

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ASPECTS OF ROAD SAFETY

The alarming increase in the number of road accidents has in recent years become a crucial problem. This problem has, in fact, assumed epidemic proportions, and, in most Western countries, is regarded as a national catastrophe. A close scrutiny of the problem and a reconsideration of its implications seems therefore to be opportune. In this article we should like to draw attention to one facet of the general problem, i.e. the apparent connection between road accidents and the indiscriminate use of certain drugs which have dangerous effects when used singly or in combination with each other or with other depressant substances such as alcohol.

In recent years experts have pointed out that, apart from the usual road accidents caused by carelessness or recklessness, a conspicuous number of accidents seem to occur for no apparent reason. This is the kind of accident which takes place at any time of the day or night, and the persons involved are known to be steady, safe drivers with a good driving record. An extensive investigation organized by the American Medical Association indicates that some of these accidents may result from the effect of sedative, tranquillizing, or narcotic drugs taken by the drivers of the cars involved.

It is, of course, a well-known fact that certain groups of people have to take specific medicines or drugs continually. Diabetic persons, for instance, who are not well controlled, may at any moment develop a hypoglycaemic reaction. Epileptics form another group of persons who have to take anti-epileptic drugs at regular intervals, and they are always potentially subject to epileptic seizures. For such persons the responsibility of driving a car rests both with themselves and with their doctors. It would be harsh flatly to deny these people the right to drive a car. It should, however, be stated categorically that medical practitioners should regularly reassess the ability of such persons to continue driving their cars.

In addition to these specific groups of patients, there are many other people who either regularly or occasionally take tranquilizers, analgesics, stimulants, antihistaminics, etc. Most of these drugs can be bought without a prescription and are often used indiscriminately. Even though it is often necessary to take these drugs, it must be stressed that they should be used under adequate supervision.

Motorists should be aware of the dangerous implications of certain conditions that may arise. For instance, a serious degree of depression of the level of consciousness may result from an overdose of these drugs. Lay people often have the misconception that a double dose of medicine is twice as effective as the normal pharmacological dose. This fallacy may lead to the abuse of drugs, resulting in unnecessary and destructive road accidents.

The use of some of the drugs to which we have referred may also result in a delayed reaction-time in persons taking them. Bearing in mind that most modern cars are swift and powerful, it must be realized that the delay in reaction-time is an extremely serious factor in the occurrence of road accidents.

Another fact which must be pointed out is that many people take two or more of these drugs at the same time. This leads to a synergistic reaction since the drugs, when used in combination, have a stronger sedative or narcotic effect than can normally be expected from them in terms of the amounts used. Furthermore, it is common knowledge that the use of alcohol, which by itself without the additional use of drugs presents a threat to road safety, enhances the potential action of certain drugs when these are taken at the same time.

All these factors and many others which we have not touched upon here, give significance and a new urgency to the complicated problem of road safety. It is imperative that this serious problem be confronted in its entirety by all responsible members of society. The time has come for doctors and pharmacists to join forces with the general public in combating this dire threat to public safety.

Motorists should continually be warned against the dangers pointed out here, i.e. the dangers resulting from impaired judgment and insight, the menacing sedative effect of certain drugs, delayed reaction time, the synergistic effect of two or more drugs taken simultaneously, and the implication of the use of alcohol by itself or in combination with other substances.

Doctors should emphasize these dangers, and organizations such as the National Council for Road Safety and its affiliated bodies, in carrying out their national campaigns for road safety, should pay particular attention to this aspect of the problem—the indiscriminate use of drugs and the dangers resulting from this practice.