

DIE SEREBROSPINALE VOG

Hoewel Corning in 1885 die prosedure van lumbale punksie uitgevoer het by die behandeling van 'n geval met tuberkuleuse meningitis, is die kliniese gebruik daarvan te danke aan die werk van Quincke in Duitsland en Essex Wynter in Engeland wat dit in 1891 by die behandeling van hidro-sefalus gebruik het. Fürbinger in 1895 en Netter in 1898 wys op die diagnostiese waarde van makroskopiese veranderinge in die serebrospinale vog (S.S.V.), en het ook die chemiese norme van sy proteïen- en chloried-inhoud in normale en patologiese toestande opgestel. Die ontwikkeling tot 1908 van die Wassermann-reaksie en, in 1912, die kolloïdale goudpresipitasie van Lange, leen hulle tot diagnostiese gebruik op die S.S.V. Mestrezat se ekstensiewe studies oor die normale en patologiese chemie van die S.S.V. lui dan die era van wetenskaplike studie van S.S.V.-veranderinge in.¹

Die klassieke werk van Greenfield en Carmichael,¹ hoewel vanjaar 34 jaar oud, is nog steeds die standaardwerk oor S.S.V.-veranderinge op fisiologiese en patologiese gebied.³ Dit moet egter nie beskou word as 'n teken van stilstand in die navorsing in hierdie vak nie. 'n Onlangse simposium² getuig van ywerige werk op hierdie gebied.

Isotoopstudies toon dat die sirkulasie van die vog, met nie-belangrike onakkuraathede, voldoen aan die klassieke konsep waarmee ons vertrou is, en wat in 1914 deur Weed beskryf is.² Tot dusver is die belangrikste bydrae van die nuwer isotoopstudies die klem op die dinamiese status van die komponente van die vog en 'n veelvuldige saamvoeging en wysiging van die saamstelling daarvan deur die choroid-pleksusse, ependiemselle en serebrale perivaskulêre ruimtes, asook deur die vate in die subarahnioëde ruimte.²

Lumbale punksie sal miskien meer dikwels in die algemene praktyk uitgevoer word as daar besef word dat dit 'n valse reenasie is dat die vog nie ondersoek sou kon word nie. Baie kan geleer word uit net 'n makroskopiese ondersoek.¹ *Troebelheid* dui op die teenwoordigheid van selle of organismes en is soms aan fibrien te wyte. As die vog 'n rukkies staan mag 'n fibrien-stolsel sigbaar word wat *nie* diagnosties is van tuberkuleuse meningitis nie, aangesien dit ook in poliomiëlitis en neurosifilis gevind word. Xantokromie is altyd patologies en kan te wyte wees aan subarahnioëde bloeding of 'n hoë proteïen-gehalte (bv. Froin se sindroom). Die teenwoordigheid van waarneembare bloed in die S.S.V. dui op 'n subarahnioëde bloeding of deurbraak na die ventrikels of subarahnioëde ruimte in gevalle met intraserebrale bloeding.¹ 'n Lumbale punksie mag soms die enigste wyse van differensiasie tussen 'n meningitis en 'n subarahnioëde bloeding wees.⁴

Eenvoudige toetse soos dié van Pandy en 'n gewysigde

Benedict-toets kan 'n growwe kwantitatiewe idee van die proteïen- en suiker-gehalte gee, en vereis net die reagens en 'n proefbuis.

Die selinhoud van normale vog is baie konstant en word gestel op drie limfosiete per c.mm. as die bogrens van normaal. Geen polimorf behoort in normale vog gevind te word nie, en vier limfosiete per c.mm. moet met agterdog bejeën word.¹

Die selinhoud van abnormale vog kan verdeel word in: (1) *Eenkernige selle* (limfosiete), (2) *gemengde selle* (limfosiete en polimorfe), en (3) *polimorfe pleositose*. Laasgenoemde dui op die bevinding van ongeveer 75 persent polimorfe, aangesien daar gewoonlik ± 10 persent limfosiete is.¹ Die verhoging van die aantal selle kan gering, matig, erg of uitgesproke wees (5-10, 10-50, 50-250 en 250+ per c.mm. respektiewelik).

Die klassieke beskrywings soos in verskillende siekte-toestande gevind, regverdig nie dogmatiese stellings nie, en Locoge en Cumings³ toon dat daar 'n groter variasie bestaan as wat ons geneig is om te dink. Uit 12,000 ondersoekte van serebrospinale vog oor 'n tydperk van 14 jaar vind hulle uit 835 gevalle van tumor 'n selverhoging in 8.3 persent en 'n verhoogde proteïen in 71.1 persent. 6.1 persent epilepsieërs toon 'n proteïen bo 70 mg. persent en twee gevalle het meer as 100 mg. proteïen getoon. Die bevindings by spinale tumore is soos verwag, maar proteïen-waardes tot 4,000 mg. is gevind.

Die bevindings in 770 gevalle met neurosifilis was onverwags. Daar is 'n relatiewe hoë aantal negatiewe Wassermann-reaksies in die bloed sowel as in die S.S.V. gevind in meningesvaskulêre sifilis en definitief meer as wat verwag is (8 persent) in dementia paralytica. In 8 persent van gevalle was die Wassermann-reaksie van die bloed positief, maar dié van die S.S.V. negatief by gevalle met dementia paralytica en tabes dorsalis.

'n Uitgebreide literatuur het sedert die monogram van Greenfield en Carmichael ontstaan. Nuwe toetse word op die S.S.V. gedoen, soos transaminase- en ander ensiem-bepalings, elektroforese van proteïen, isotoopstudies, ens.

Ons is nie bekend met die mate van variasie van bevindings in algemene gestelsiektes nie. 'n Uitgawe soos die Ciba-simposium² gee 'n indruk van die omvang van navorsingswerk op hierdie gebied, maar die wenslikheid van 'n samevatting van die *kliniese* toepasbare bepalinge en bevindings van die navorsers word allerweë gevoel.

1. Greenfield, J. G. en Carmichael, E. A. (1925): *The Cerebrospinal Fluid in Clinical Diagnosis*. Londen: Macmillan.
2. Ciba Foundation Symposium (1958): *The Cerebrospinal Fluid*. Londen: J. en A. Churchill.
3. Locoge, M. en Cumings, J. N. (1958): *Brit. Med. J.*, 1, 618.
4. Walton, J. N. (1956): *Subarachnoid Haemorrhage*. Edinburgh en Londen: E. en S. Livingstone.

YOUTH AND AN OUTSIDE INTEREST GROUP

No doctor can dissociate himself from the social tendencies that shape and determine the behaviour patterns in the

community which he serves. The fact, therefore, that violence has become such an important element in the numerous

influences to which the teenager is exposed must be of some significance to the doctor who is aware of the broader obligations of his calling.

The teenager, today, is confronted with the insidious influence of radio, cinema, comics, gramophone records and television, all of which are often based on an idiom of violence. It is important to realize that the cumulative influence of these media is producing a destructive effect on the psychological balance of the teenager. Many young persons, today, lack the moral, emotional and intellectual equipment which would enable them to withstand the pernicious effect of the endless stream of violence, crime and brutality to which they are constantly being exposed. This discrepancy between the teenager's moral equipment with which he has to face the world and the terrifying range of the undermining influences to which he is constantly being subjected is largely responsible for the so-called teenage problem in modern society.

There is little point in salving the conscience of the public by emphasizing the moral supposed to be employed in most of the media to which the teenager is exposed—that the 'bad man' will ultimately be vanquished—for, unless the child has been conditioned from an early age to moral values and traditional virtues, he will find the appeal of the 'bad man' far more exciting and in keeping with his own budding aggression than the thin triumph of virtue.

A child brought up in a home with immature and temperamentally unstable parents is particularly vulnerable to these influences, especially at puberty, when sexual maturity produces a desire for independence and originality. Egotistic, aggressive and rebellious traits appear, usually directed against the parents, and emotions tend to be explosive. A special vocabulary is cultivated, and gaudy and conspicuous apparel worn, tendencies which stem from the powerful urge to find a new group to which his loyalties can be attached.

The teenage mind seeks adventure and thrills, but above all it seeks a group to which it can belong. These psychological and functional changes are the natural accompaniment of sexual maturity, and it is at this time that the mind of the teenager seeks an 'outside interest group'. Unfortunately society has failed to provide adequate facilities of this nature. Society has made no attempt to provide such an 'outside interest group' which could satisfactorily direct teenage loyalties, emotional aspirations and ideals. The inevitable consequence of this failure has been the teenager's attempt to find his own substitutes for the 'outside interest group' which he so urgently needs, substitutes which are often undesirable, undermining and anti-social.

It is from this environment that delinquency stems. Freedom, with its rules of behaviour, is replaced by licence. Usually those people who set the pattern for teenage behaviour and who become the heroes of the teenagers, exploit this situation for the benefit of box-office receipts. Because the cinema, television and recording artists present this licence to the teenager *without disapproval*, licence is mistaken for freedom and becomes the cherished goal of many a frustrated young person. Moreover, there are many parents today who seem incapable of distinguishing between adolescent freedom and complete licence. Adolescent freedom should be encouraged as the natural outcome of normal emancipation from parental protection, but destructive licence should be seen for what it really is: a gross deception of oneself.

The period of instability usually starts at puberty, when adolescent crime, too, manifests itself. Children who have a satisfactory 'outside interest group' at school, sometimes experience a period of emotional instability after leaving school. Their lack of experience in coping with new emergencies now begins to tell. At this time there is a great need to belong somewhere, to be recognized, wanted and loved. Moodiness is frequent and feelings of intense loneliness quite common.

It is at this stage, too, that the demoralizing influence of 'rock and roll' stars play havoc with the vulnerable and susceptible teenager. Adolescents have a need for rhythmic expression and it is understandable that this primitive type of music finds a fertile field of response in the teenager. This is only one of the many emotional needs which should be fulfilled by the establishment of a satisfactory 'outside interest group', the only aim of which should be to serve the true interests of the teenager and not to exploit his vulnerability for commercial purposes.

It is vitally necessary for society to recognize that, in the face of some of the decadent influences prevalent today, the community must provide a broad and healthy 'outside interest group' to assist the teenager in his normal development towards emancipation, and at the same time provide positive cultural values to counteract the morally-undermining effect of present-day entertainment media.

Communal youth organizations, financed by the public, should provide facilities for recreation, entertainment and cultural activities in which the teenager can find a healthy outlet for self-expression and in which he can learn the true value of freedom as a social heritage.