

CHRONIC TOXÆMIA AS A CAUSE OF DEGENERATION OF MIND AND CONDUCT.*

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Abstract of Paper.

In attacks of acute infections and diseases accompanied by obvious illness and high fever and delirium, we naturally attribute the patient's altered mentality to the toxins or germs reaching the brain through the blood, and therefore do not hold him responsible for his acts and conduct until with convalescence he is restored to his right mind.

But in certain chronic infections the disease may be insidious in onset and the mental effects slow in development. Now although similarly the result of toxins or germs attacking the brain, in the absence of obvious or apparent illness the true cause of these mental effects may remain wholly unsuspected.

We make no allusions to the well-known moral effects of alcoholic excess or drug addiction, the victims of which are not without some measure of blame, confining our remarks to two infective diseases which will suffice to illustrate the importance of the question I raise, though the solutions of the problems involved are less simple.

Lethargic Encephalitis.—Of the manifold late results in patients who survive attacks of sleepy sickness one of the most remarkable and distressing yet definite clinical types is what is known as the "Apache Type" characterised by the development of delinquency and bad conduct varying from simple mischievousness to definite criminal manifestations.† "Children of irreproachable family, hitherto of exemplary behaviour and character, may in a very short time become guilty of every delinquency from mere naughtiness to cruelty and murder, and from mild bad habits to gross indecencies." Yet unlike the troublesome mental defective, the delinquent encephalitic "is almost invariably intellectually superior to his conduct."

From observations on 113 patients who had had attacks of epidemic encephalitis, Dr. Barton Hall‡ noted *moral changes* in 12 out of 92 chronic cases, such as gross cruelty, pugnacity and violence, thieving, lying, begging, marked and precocious eroticism or indecent assault. "Moral changes as residua of sleepy sickness, although particularly frequent in children, are by no means limited to them."

Our purpose in citing observations from authorities with considerable experience in the mental effects due to a chronic pathogenic infection so defined as epidemic or lethargic encephalitis is to afford evidence, not only of disturbance of intellect amounting to insanity, but also equally definite disturbances and deterioration in morals and conduct as a legacy of the attacks of encephalitis.

Focal Sepsis. Let us now turn to another less defined type of disease, chronic infection of the organ-

isms of sepsis, often far more difficult to determine and to define for the simple reason that these organisms are so generally present in our bodies without causing either definite mental or bodily ailment. Nevertheless in certain cases grave disturbance, bodily and mental, is so definitely determined by these persistent infections, that the ensuing moral and mental aberration must be regarded as disease, and therefore involve very serious social problems that we cannot afford to ignore. Focal Sepsis is the clinical term for the toxæmia resulting from either toxins or the organisms themselves from a chronic localised infection by the organisms of sepsis entering the blood stream. Fortunately everyone has some measure of natural defence against such poisoning. But when the focus is persistent and active, and especially if for any reason the natural resistance is lowered, the effects of such a toxæmia may be disastrous.

One of the most frequent and in many respects, typical examples of mild "focal sepsis" is seen in the common septic tonsils and adenoids in children. We have become accustomed to the curious inability to concentrate or to think clearly and normally, almost amounting to stupidity, that is so constantly seen in children with pronounced tonsil and adenoid sepsis. The wonderful and rapid improvement both in mental development as well as general health that usually follows the removal of such sources of poisoning is almost common knowledge. But with the increasing social responsibilities of adult life, similar septic poisoning resulting from other sources of focal sepsis are often much more striking, for even the slighter degrees of consequent alteration in character may suffice to cause taciturnity, unhappiness, lack of memory for daily events, and inability to come to any decision, either in family life or in business may have grievous results. Further, one of the most constant results of "focal sepsis" toxæmia is mental depression. In those who are susceptible, the very usual mental depression may deepen into profound apathy or melancholia, and sometimes leads the patient to seek frequent and disastrous relief from alcohol. It is known that some of the patients so affected become certifiably insane, and in some cases they have been completely restored in mind and body by suitable treatment for the removal of the sources of poisoning. The source of such poisoning has been known to occur in the gall-bladder, and in many other remote or hidden regions, though often located in the teeth or other structures or cavities in the head. It is beyond doubt that many cases of suicide are the outcome of such sources of focal sepsis poisoning and depressing and obscuring the mental outlook. Of the thousands of cases of suicide that occur in our midst, the story is not unusual that the unfortunate individual had "suffered lately from pains in the head and was depressed"; the verdict of "suicide while of unsound mind" closes the chapter with no systematic post-mortem investigation to determine the material and remediable cause of these tragedies.

We cannot suppose that forms of poisoning that cause such profound mental changes that I have mentioned, even insanity, delusions and suicide, do not profoundly affect the sufferer's character and conduct, and lessen his social and legal responsibility.

* Read by Dr. P. Watson-Williams to the Physiology Section of the British Association, Bristol, 1930.

References.

- † McCowan, P. K. and Cook, L. C. "The Mental Aspects of Chronic Epidemic Encephalitis," *Lancet*, 1928. June 30th, p. 1316.
‡ Hall, S. Barton. "The Mental Aspect of Epidemic Encephalitis." *British Medical Journal*, 1929. March 9th, p. 444.
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