Medical Memoranda

Pituitary Deformity from Carotid Compression— a Potential Hazard in Pituitary Ablation

One of the ways in which certain hormone-dependent tumours are treated is by ablation of the pituitary body. Among the methods used is one involving the injection of a radioactive substance into the gland. This is performed by needle puncture of the floor of the sella turcica via the nasal route. The procedure is done under some form of x-ray control, but is nevertheless one that requires great skill if numerous important anatomical relations of the pituitary are to escape injury. The object of this paper is to draw attention to a change in the carotid arteries which makes them more vulnerable and puncture or irradiation of them an added hazard of this form of treatment.

The normal relations of the carotid arteries to the pituitary are such that they do not impinge on the lateral extremities of the organ.

I have frequently observed, *post mortem*, that atheromatous internal carotid arteries may be varicose to a greater or less degree. Where the carotid dilatation is slight one sees small oval depressions on the sides of the pituitary.

Upper aspect of dumb-bell type of pituitary deformity. Posterior lobe is below.

With further ectasia of the vessels the pituitary becomes hollowed infero-laterally, and in extreme varicosity the pituitary is bilaterally compressed about its middle and acquires a dumb-bell shape. The accompanying photograph shows the appearance in such an advanced case and also, what is often seen, that the carotids are unequally

affected, so that the dumb-bell is asymmetrical. It measures 4.5 mm. across its waist instead of the normal 12 to 13 mm.

The youngest subject in whom I have seen the most severe degree of the deformity was a man of 57. Clearly, the encroachment towards the midline of the carotid arteries is a potential hazard in closed operations in the fossa. The condition is mentioned by Henke and Lubarsch (1926), and a photograph in their handbook shows the appearance of the sella turcica in such a case. It was not noted by Beattie and Heasman (1958) in a recent study of 82 pituitaries from elderly mental patients with and without hypertension. (Sheehan and Summers (1949) do not mention it under "Extrasellar tumours—miscellaneous," but remark about this group in general: "In many cases there is an astonishing lack of symptoms despite quite gross compression of the pituitary.") In the cases I have seen there were no post-mortem findings or clinical data to suggest that hypopituitarism existed, nor would it be expected with such a volume of surviving glandular tissue.

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REFERENCES

- Beattie, M. K., and Heasman, M. A. (1958). *J. Path. Bact.*, 75, 83.
Henke, F., and Lubarsch, O. (1926). *Handbuch der Speziellen Pathologischen Anatomie und Histologie*, vol. 7. Springer, Berlin.
Sheehan, H. L., and Summers, V. K. (1949). *Quart. J. Med.*, 18, 319.

Tuberculous Meningitis as a Cause of Mental Deficiency

Some 17 years ago I saw a series of cases of tuberculous meningitis admitted to a psychiatric observation ward on account of acute psychotic features (Kirman, 1943). At that time there was no effective treatment for the disease, and residual effects were not a problem. Tuberculous meningitis was always looked upon as a fatal disease until the introduction of streptomycin. It was not, therefore, a cause of mental deficiency.

A SERIES OF CASES

The first case admitted to the Fountain Hospital was in 1951, since when a total of 13 cases have been admitted (Table I). The condition is best described as a meningo-encephalitis, and unless response to treatment is prompt permanent damage to mental capacity is inevitable. Our hospital accommodates 600 children with mental deficiency, and the admission rate is approximately 80 a year, being the majority of mentally defective children admitted from the counties of London and Surrey. The cases admitted represent the intermediate group between those who die and those whose illness results in lesser degrees of brain damage expressed as educational retardation or behaviour disturbance. It is difficult to draw conclusions from small numbers, but our experience does suggest that there has been an improvement in the situation since 1949–50 and that this disease should very seldom in the future be a cause of mental defect.

Social factors are very important in our group of cases. In part this is the result of tuberculosis in the family (Table II), which may reduce the income or the ability to provide a home, but low incomes and inadequate housing appear often to have anteceded the infection.

The mental grade in these cases was: idiot in 7, imbecile in 4, and educationally subnormal in 2. After much patient effort it was possible to return to the educational system the two children who proved to be above imbecile level. The main handicap in these two cases was restlessness, and they later became stabilized.

TABLE I.—Tuberculous Meningitis

Year:	1948	1949	1950	1951	1952	1953	1954	1955	1956	Total
Onset	1	4	2	3	1	0	1	1	0	13
Admission	—	—	—	1	6	2	0	0	4	13

The ages in years at onset were <1 in 5 cases; 1– in 5; 2– in 1; 3– in 1; 4– in 0; and 5– in 1.

TABLE II.—Tuberculosis in Family

Father died ..	.. 2	Sibling died ..	1	Other relatives ..	3
Father ill ..	.. 4	Sibling ill ..	3	Lodger ..	1
Mother ill ..	.. 3				

Physical disabilities found were: blindness in 6, strabismus in 5, hemiplegia in 3, spastic diplegia in 2, hydrocephalus in 2, deafness in 2, and epilepsy in 2.

In our experience tuberculous meningitis has about the same importance at the present time as kernicterus as a cause of mental defect. It is about six times as important as cretinism or congenital syphilis, and accounts for about one-third of the number of cases produced by phenylketonuria.

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REFERENCE

- Kirman, B. H. (1943). *Brit. J. Tuberc.*, 27, 63.

The Ministry of Agriculture, Fisheries, and Food has reminded farmers of the very serious danger to anyone entering a grain bin or silo when the grain is being run out of the bottom of the bin. A vortex is created and anyone on the grain is liable to be drawn down and suffocated. Two fatal accidents have recently occurred in this way.