CEREBROSPINAL FLUID FINDINGS AFTER TREATMENT OF EARLY SYPHILIS WITH PENICILLIN*

A FURTHER SERIES OF 80 CASES

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In the period September, 1963, to August, 1964, at the Central Venereal Diseases Clinic, Colombo, 151 patients who had received penicillin treatment for early syphilis at least 2 years previously underwent tests of the cerebrospinal fluid (CSF); the results were normal in 150 cases (Fernando, 1965). These findings called into question the need for CSF examination as a routine test of cure in early syphilis, but it was considered that further data were needed before abandonment of the test could be given serious consideration. This paper presents the results of tests of the CSF in a further eighty cases seen in the period September, 1964, to August, 1965.

Material and Methods

The eighty cases included eleven of sero-negative primary syphilis, forty of sero-positive primary syphilis, and 29 in the secondary stage.

59 patients had been treated with penicillin aluminium monostearate (PAM) at a dose of 600,000 units given intramuscularly daily for 10 days; nine of these patients defaulted before receiving the last one or two injections.

Twelve patients with primary syphilis were each given benzathine penicillin 2·4 mega units as two injections of 1·2 mega units during one week.

Two patients with secondary syphilis were given benzathine penicillin 1·2 mega units intramuscularly twice weekly for 2 weeks, a total of 4·8 mega units.

Seven patients each received benethamine penicillin 600,000 units intramuscularly given on alternate days for five injections, a total of 3 mega units.

Follow-up was by monthly clinical and serological examination for 1 year followed by examination every 3 months after the serum tests had become negative. The intervals between treatment and lumbar puncture were as follows:

No. of Years	2	3	4	5	6	7	8	9	10 and Over
No. of Cases	42	16	12	5	1	—	1	2	1

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In six cases the results of the serum VDRL tests were positive at the time of lumbar puncture, being weakly reactive in three cases, and positive at a titre of 1 in 4 in two, and positive at 1 in 16 in one; none of these cases gave other indications of relapse or re-infection.

Results of CSF Examinations

Cells As in the previous series, taking three cells per c.mm. as the upper limit of normal, six cases showed abnormality; of these, two had four cells, one five, one six, one eight, and one nine cells per c.mm. However, it was possible to repeat the test about one year later on three of these patients, those with four, six, and eight cells per c.mm., and in all of these the counts were normal as were the other findings in the CSF. The only patient who was reported in the previous study of 151 cases as having varying changes in the CSF was re-examined and was found to have a normal CSF during this study; this examination included a FTA test which gave negative results.

Protein A level above 30 mg. per cent. was taken as abnormal. Findings in all eighty patients were normal.

Lange Curve Normal in all cases.

VDRL Negative in all eighty specimens of CSF.

Thus, the CSF was normal in all respects in all cases except for the six which showed slightly abnormal cell counts only. However, at re-examination one year later, the counts were normal in three of these cases, leaving only three with slightly raised cell counts: namely, 4, 5, and 9 cells per c.mm.

The results of the CSF examinations in the six cases in which VDRL tests of the serum had proved positive at the time of lumbar puncture were all normal.

Discussion

In the previous review of 151 cases (Fernando, 1965), the views were mentioned of Thomas (1949) on the CSF reflecting the syphilitic inflammatory process and of King (1964) regarding penicillin treatment of early syphilis preventing neurosyphilis.

Cutler, Bauer, Price, and Schwimmer (1954) reported that 4.6 per cent. of 346 non-syphilitic patients in one series and 1.5 per cent. of 206 non-syphilitics in another series had been found to have more than 6 cells per c.mm. at routine tests of the CSF. Chargin, Sobel, Vandow, and Rosenthal (1958), who followed 27 cases of primary syphilis and 23 cases of secondary syphilis after treatment, found only one case of asymptomatic neurosyphilis.

Perdrup (1960) found the CSF to be normal in all of the 78 cases examined by lumbar puncture one year after treatment in his series of 213 cases of early syphilis treated with penicillin.

Hellerström and Skog (1962) found the CSF normal in all of the 51 patients who could be examined one year after treatment, in their series of 91 patients.

Jefferiss and Willcox (1963) found only one abnormal CSF in 81 examinations performed at least 9 months after penicillin treatment of early syphilis.

King (1959) suggested follow-up of early syphilis for at least 2 years after treatment, and in 1964 was still advocating examination of the CSF as a necessary test of cure. On the other hand, Jefferiss (1963) stated that one abnormal result in the various CSF tests without support from the others was suspect and he did not favour routine CSF examination after the adequate treatment of early syphilis.

Summary

The cerebrospinal fluid findings in eighty cases of early syphilis examined at least 2 years (average 3.16) after treatment with penicillin are presented. In 77 cases the CSF findings were considered normal. Although six cases showed slight abnormalities in the cell count only, at a later re-examination the findings in three of these cases were normal.

In the earlier study of 151 cases (Fernando, 1965), one CSF was doubtful, but on repeat lumbar puncture in the present study the CSF was normal.

Thus, of a total of 231 CSF examinations, only three revealed a very slight (probably insignificant) elevation in the cell count only.

This further confirms that penicillin treatment for primary and secondary syphilis appears to be

excellent and that the question of abandoning the CSF examination as a routine test of cure in adequately treated early syphilis needs to be considered.

Once again I wish to thank Mr A. L. Dassanayake of the Central VD Laboratory for helping me with the CSF examinations.

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Le liquide céphalo-rachidien après le traitement de la syphilis précoce avec de la pénicilline

RÉSUMÉ

Les résultats obtenus de l'analyse du liquide céphalo-rachidien chez quatre-vingts malades atteints de syphilis précoce au moins deux ans (la moyenne était de 3,16 années) après traitement avec de la pénicilline sont présentés. Chez 77 cas on a considéré que les résultats donnés par le liquide céphalo-rachidien étaient normaux.

Quoique six cas avaient montré de légères anomalies dans la numération des cellules seulement, à un ré-examen fait à une date ultérieure les résultats de trois de ces six cas étaient normaux.

Dans une étude antérieure portant sur 151 cas (Fernando, 1965) un liquide céphalo-rachidien était douteux, mais en répétant la ponction lombaire pendant la présente étude le liquide céphalo-rachidien était normal.

Ainsi, d'un total de 231 analyses du liquide céphalo-rachidien, seulement trois avaient révélé une très légère augmentation dans la numération cellulaire seulement et cette augmentation était probablement insignifiante.

Cela confirme de plus que le traitement de la syphilis primaire et secondaire avec de la pénicilline semble être excellent et que la question d'abandonner l'analyse du liquide céphalo-rachidien comme un test routinier prouvant la guérison des sujets atteints de syphilis précoce et traités suffisamment demande à être considérée.