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## ORIGINAL ARTICLES

### POST LUMBAR PUNCTURE REACTIONS IN SYPHILITIC PATIENTS FROM A V. D. CLINIC

By

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Lumbar puncture is done in syphilitic patients for diagnosis, assessment of progress in neurosyphilis and for surveillance. In spite of the above advantage, the lumbar puncture often results in complications such as headache, stiffness and pain in neck, giddiness, nausea, vomiting and some times fever.

In the clinic of V. D. Training Centre, 759 lumbar punctures were done during the period of 7 years from 1956 to 1962. In the present study of the post lumbar puncture reactions, 200 cases who attended during 1961-62 were selected. The patients were diagnosed as early syphilis, latent syphilis and aeuro-syphilis. Lumbar puncture was done on cases of early syphilis as a final test of cure. Before a patient is discharged lumbar puncture is done to examine the C. S. F. as a test of cure. In latent syphilis C. S. F. is examined to exclude neuro-syphilis. The aim of this study is to know about post lumbar puncture reactions in syphilitic patients and to assess the extent and type of severe reactions in the out-patient clinic. It was observed that the majority of the patients did not have any severe reactions or complications.

### TECHNIQUE

In the V. D. Training Centre, lumbar puncture is performed generally in sitting position. No local anaesthesia is used. The back of the patient was prepared aseptically. A needle of gauge No. 20 is used for the lumbar puncture. The side of puncture is sealed by Tincture Benzoin Co. The patient is allowed to take rest in bed in the clinic for two to three hours. Afterwards he/she is allowed to go home with the following advice :

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- (3) Statistician.

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(1) Rest in bed for 2 days.

(2) Irgapyrine; One tablet every 8 hrs. by mouth for 2 days.

(3) Largactil; 25 mgm tablets every 8 hrs. for 2 days. The patients were asked to report after 48 hours; when information regarding any post lumbar puncture reactions are enquired and noted. They were followed up with necessary treatment, till full recovery.

Table No. 1  
SHOWING SEX AND TYPE OF REACTION IN 90 CASES

S. No.	Type of Reaction	Sex				Total	
		Male	%	Female	%	No.	%
1.	Stiff neck	15	13.7	...	...	15	16.6
2.	Pain in neck	1	0.9	1	9.0	2	2.2
3.	Headache	75	68.2	10	72.9	85	57.9
4.	Giddiness	13	11.8	2	18.1	15	16.7
5.	Nausea and vomiting	5	4.5	...	...	5	5.5
6.	Fever	1	0.9	...	...	1	1.1

The above table shows that headache was the main complaint (68.2% males and 72.9% females). Stiff neck was observed in 13.7% males. Pain in the neck was observed in 0.9% males. Giddiness was felt by 11.8% males and 18.1% females. In females stiff-neck, nausea, vomiting and fever were not observed at all.

Table No. 2  
SHOWING THE TYPE AND DURATION OF REACTION

Duration in Days	Type of Reaction		Total
	Severe	Mild	Number
1.	...	1	1
2.	1	5	6
3.	1	12	13
4.	2	7	9
5.	3	1	4
6.	3	4	5
7.	7	4	11
8.	4	3	7
9.	1	2	3
10.	1	2	3
11.	...	...	...
12.	...	...	...
13.	...	...	...
14.	1	...	1
15 & over	1	...	1
Total No.	25	32	64
%	39.1	60.9	100.0

The classification of the cases into severe and mild type of reaction was based on the individual complaints. Assessment of the severity or otherwise of the particular reaction depended on the subjective character of the individuals' complaints. In this study 39.1% showed severe type of reactions and 60.9% mild type reactions.

Table No. 3  
SHOWING DURATION OF REACTION AND SEX

Duration in Days	Males		Females		Total	
	No.	%	No.	%	No.	%
1.	1	1.8	...	...	1	1.6
2.	6	1.5	...	...	6	9.4
3.	11	19.1	2	28.5	13	20.4
4.	8	14.1	1	14.3	9	14.1
5.	3	5.3	1	14.3	4	6.3
6.	5	8.7	...	...	5	7.8
7.	10	17.5	1	14.3	11	17.2
8.	7	12.3	...	...	7	11.0
9.	3	5.2	...	...	3	4.7
10.	3	5.2	...	...	3	4.7
11.	...	...	...	...	...	...
12.	...	...	...	...	...	...
13.	...	...	...	...	...	...
14.	...	...	1	14.3	1	14.3
15.	...	...	1	14.3	1	14.3
Total	57	100.0	7	100	64	100.0

Table 3 shows sex and duration of reaction. It can be seen that the duration of reaction is almost similar in males and females. The reaction was felt up to 3 days by 31% males and 28.5% females. Upto one week the post lumbar puncture complications were more marked between 3 and 7 days after the lumbar puncture.

Table No. 4  
SHOWING SEX ANALYSIS AND POST PUNCTURE HEADACHE

Degree of Headache	Male		Female		Total	
	No.	%	No.	%	No.	%
Severe	27	14.6	6	37.50	33	16.5
Mild	52	28.3	5	31.25	57	28.5
Nil	105	57.1	5	31.25	110	55.0
Total	184	100	16	100	200	100.0

Table No. 4 shows the analysis of sex distribution in 200 cases. Out of 184 males cases, 27 patients (or 14.6%) showed severe type of post puncture headache. 52 cases (28.3%) showed mild type reaction the rest 57.1% did not show any reaction at all.

Out of 16 females, 6 (or 37.5%) and 5 cases or 31.25% showed severe and mild headache respectively.

Table No. 5

## SHOWING THE NUMBER OF ATTEMPTS AND TYPE OF REACTION

No of attempts	Type of Reaction							
	Severe		Mild		Nil		Total	
	No.	%	No.	%	No.	%	No.	%
One	29	15.1	56	29.3	106	55.6	161	100
Two	3	42.9	1	14.3	3	42.8	7	100
Three	1	50.0	-	-	1	50.0	2	100
Total	33	16.5	57	28.5	110	55.0	200	100

Table No. shows the number of attempts and type of reactions. Out of 191 patients 29 cases or 15.1% reported severe reactions. The reactions were observed to be severe in 42.9% and 50.0% when the number of attempts were 2 & 3 respectively. Thus, it could be seen that the percentage of cases with severe complications as more when the number of attempts as also more.

Table No. 6

## AGE AND SEX DISTRIBUTION IN 200 CASES

Age Group	SEX-					
	Males		Females		Total	
	No.	%	No.	%	No.	%
12-19			1	6.2	1	6.2
18-23	9	2.8	2	12.5	11	5.5
24-29	33	17.8	3	18.7	36	18.5
30-35	61	32.9	4	25.0	45	32.5
36-41	31	16.8	2	12.5	33	16.5
42-47	22	11.9	1	6.2	23	11.5
47-53	17	9.2	1	6.2	18	9.0
54-59	5	2.7	2	12.5	7	3.5
60-65	6	3.2	...	...	6	3.0
Total	185	100	16	100	200	100

The age and sex distribution of 200 patients are presented in table 6. 54% patients were in the age group 18-35 years. The mean age and standard deviations for males and females were found to be 36.7+9.0 and 37.9+1.8 years respectively. For total patients the mean and SD were 36.4 years and 10.2 Years respectively.

## DISCUSSION

Post puncture reactions seem to be unavoidable in a certain proportion of cases undergoing routine lumbar puncture in a V. D. Clinic. Though the effect of such reaction may not be alarming, these continue to be a matter of temporary incapacitation and annoyance to patient and concern to the physician. In the present study we have seen headache as the commonest complication and others

were stiffness of the neck, pain in the neck, nausea, vomiting, giddiness and sometimes fever.

It is also seen that number of attempts and severe type of post lumbar puncture reaction are directly related. In our study we have seen 68.2% males and 72.9% females complained headache. 39% showed severe type of reaction and 60.9% mild type of reaction. Usually the reaction persisted for a period of 8 days. Only 2 cases have shown reaction upto 15 days.

Allen (1934) reported 54.5% headache rate after failure of the puncture and only 15.5% when successful. While the figures of Erskin and Jhonson (1938) were 89.1% and 3.4% respectively. In our study, we have seen 92% have given reactions when the lumbar puncture is performed by more than one attempt.

The position of the patient during the lumbar puncture would appear to play a part in the incidence of post puncture reactions. Those lying in left lateral position are reported to have more reactions than those in sitting position. This was observed by Underwood (1946) when incidence of lying and sitting up was 17% and 22% respectively and Emory (1948), whose figures were 26% and 41.8%. But in this study we have followed the latter method.

The duration of reaction in 31% males and 28% females was observed as 3 days. The reactions were noticed upto 7 days by 77% males and 71% females. Out of 184 male cases, 27 patients (14.6%) showed severe headache. 82 cases (28.3% showed mild type of reactions and the rest of patients (57.1%) did not show any reaction. Out of 16 females, 6 cases (37.8%) and 8 cases (31.25%) showed severe and mild headache respectively.

Various steps for prevention of the headache have been advocated including the intravenous injection of saline immediately after puncture by Bear (1920); the use of small gauge needle by Green (1950), the use of double needle by Gallagher and Campbell (1954) and even the plugging of the puncture hole with a length of catgut by Milson (1930). Some methods are not practicable for use in the outpatients clinics and others are not always useful. Dattner (1944) in a summary of these methods concludes; "The variety of measures recommended makes their value extremely doubtful."

Opinions are divided on the question of rest after lumbar puncture. Dattner (1944) quotes the suggestion after association of the syphilis clinics. "There is abundant evidence to prove that rest immediately following the puncture has no prophylactic value." However, on the question of allowing activity after lumbar puncture, Stokes, Beeman, and Ingrahm (1949) have not recommended. We have allowed all cases to take rest in the V. D. Clinic after the lumbar puncture and found good results with the same.

Kosedale has also found the incidence of headache higher under 40 years of age in which the lumbar puncture is not followed by rest, In the other group who took, low incidence of headache was observed.

In our series we have 19 CSF/STS positive cases out of which one had shown severe reaction, 5 cases had mild reaction and 13 cases had shown no reaction. In the remaining 181 cases, the C. S. F., STT. S. were negative. Thus we can say that the post lumbar puncture reactions were inversely proportional to the abnormal findings in cerebro spinal fluid examination.

#### SUMMARY

The analysis of the Post lumbar puncture complications of 200 patients who were given C. S. F. examination in the V. D. Training Centre during 1961-62 was presented in this paper. Important findings are as follows :

1. The reactions are found to be severe, mild & nil in 16.5% 28.5% and 55% of patients respectively.
2. The common complications found were headache in 57.9%, Giddiness & stiff neck in 17% patients.
3. The complications are found to be more, when more than one attempt was made.
4. The complications are directly related to the abnormal CSF findings.

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#### REFERENCES

1. Adler. H. (1943) N. Y. st. J. Med. 43, 1328.
2. Allen H. W. (1934) Brit. Med. J. 2, 349.
3. Annual Reports of the V. D. Training Centre, Safdarjang Hospital (1961-62 Unpublished).
4. Baar G. (1920) Med. Rec. (N. Y) 98, 598.
5. Blau. A. (1941) U. Rol. Cutan. Rev. 45,239.
6. Dattner B. (1944) "The management of Neurosyphilis" P-33 Heinemann London.
7. Emory M. L. (1948) Amer. Pract. (Philad), 2,451.
8. Erskine, D, and Johnson A. G. (1938) : Lancet 2,371.
9. Grew I, F (1936) Med. T. Geneest. 80,3946.
10. Juovich, G. R., Novel P. Polak. Off. & Sagen W. "Spinal headache and post concussion headache, Prelim. report (Management with ergot preparation) Amer. Jr. of Sr. 92: 441-444 Sept. 1956.
11. Murry. N. E., Bush Jr. R. B., Dencon J. S. "Successful treatment of Post Lumbar puncture headache", Am. J Surgeons. 91: 394-395 March '56.
12. Nelson M. O. (1930) Arch. Derm. Syph. (Chicago) 21, 615.
13. Redlich F. C., Moor, B. C. and Kimbell, I (1946) Psychosom, Med; 8-386.
14. Rosedale, M: "Headache in relation to age of patients and rest after puncture." Brit. Jr. of Vene. Dis. 32: 127-128 June 1956.
15. Schofield C. B. S. "Lumbar puncture headache in relation to sex, age and CSF findings" Brit J. of Ven. Dis. 35, 1957.
16. Stiirup G (1933) Acta psychiat, neurol, second 8,181.
17. Stokes, J. H. Beerman, H, and Ingraham N. R. Jr. (1944) Modern clinical syphilology" 3 rd Ed , p. 120 Saunders, Philadelphia.
18. Underwood L. J. (1946) Amr. Jr. of Syphilis 30-264.