FEBRILE RESPONSE TO CEREBROSPINAL FLUID FLOW STUDIES

The incidence of adverse reactions to ^{131}I-IHSA cerebrospinal fluid flow studies has been commented upon, but there is a paucity of definitive data. As a first approach, we have retrospectively reviewed our experience with this intrathecal procedure over a 4-year period. The single criterion for inclusion in this study was an adequate temperature record for 1–7 days before the procedure and for several days after. Patients without a complete record and those with an erratic febrile course before the IHSA study were not included. Patients were then classified on the basis of age, sex, if a pneumoencephalogram was performed simultaneously, and whether or not their temperature was elevated 1°F or greater within 24 hr.

The age distribution of the cases is given below.

Age in years	M	F	Total
0–10	5	3	8
11–20	6	0	6
21–30	8	3	11
31–40	3	4	7
41–50	11	5	16
51–60	10	8	18
61–70	9	9	18
71–80	3	1	4
	55	33	88

The incidence of febrile response was as follows:

	Without pneumoencephalogram	With pneumoencephalogram
Females	5 out of 19	11 out or 14
Males	11 out of 41	9 out of 14
Total	16 out of 60	20 out of 28

Thus 36 out of the 88 patients (about 41%) had a febrile response following the IHSA study (in the group under age 40, the incidence was 31%). Of the entire patient grouping, 28 had accompanying pneumoencephalograms and 20 had a febrile response (approximately 72%). In the 60 patients without accompanying pneumoencephalograms, only 16 had a febrile reaction (about 27%). Hence it must be concluded that an accompanying pneumoencephalogram increased the incidence of a febrile course. In the males without an accompanying pneumoencephalogram, 11 out of 41 (27%) had a febrile reaction, while in females the percentage value was nearly identical (5 out of 19, or 26%). We cannot comment at this time on the incidence of febrile responses to either isolated lumbar punctures or pneumoencephalograms without a IHSA study (all of these studies were performed with lumbar injections).

Each of the studies had been performed with IHSA from the same manufacturer (E. R. Squibb & Sons, Inc.). In many cases of febrile response, we both cultured an aliquot of the IHSA and had pyrogen tests (using rabbits) performed. In each case the results were negative. We can only surmise that these assays were not sensitive enough to detect materials capable of producing a febrile response when introduced into the cerebrospinal fluid. An animal cerebrospinal fluid testing model might be helpful.

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