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Positioning of Patients After Metrizamide Lumbar Myelography

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This prospective study of 90 patients after lumbar metrizamide myelography indicates that the semiupright position at 45° in bed or early ambulation reduces postprocedure vomiting but does not reduce the frequency of headache. Ambulatory patients have less frequent nausea than patients kept in bed.

Patients undergoing iophendylate (Pantopaque) myelography are traditionally kept in a horizontal position, either prone or supine, for 12–24 hr after myelography, to reduce cerebrospinal fluid leakage and decrease the frequency of headache. Patients undergoing lumbar metrizamide myelography are subject to the additional side effects of nausea, vomiting, and back and extremity pain. A semiupright position with the head of the bed elevated 15°–45° has been advocated by several authors after metrizamide lumbar myelography, to reduce these side effects [1–3].

We are unaware of any study in which the incidence of side effects was correlated with the position of the patients after lumbar myelography. We undertook this prospective study to determine whether the position of the patient after lumbar metrizamide myelography influences its discomfort.

Subjects and Methods

Before metrizamide lumbar myelography, 90 patients were informed of the purpose of the study and agreed to be placed randomly into one of three groups. Group A patients were to remain horizontal in bed for at least 12 hr with no bathroom privileges. Group B patients were also to remain in bed for at least 12 hr and were denied bathroom privileges. The head of the bed was elevated to 45° during waking hours and to 30° during sleep. Group C patients were ambulatory; they were returned to the ward in a wheelchair and were encouraged to walk. Medication for possible headache and nausea was prescribed for all three groups. The patients were seen by a neurologist in follow-up and their symptoms were recorded. Each group consisted of 30 patients, a total of 46 men and 44 women.

Results

Table 1 illustrates the incidence of headache, nausea, vomiting, and leg and extremity pain. The incidence of headache varied from 43% to 53%. This is not

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TABLE 1: Incidence of Side Effects After Metrizamide Lumbar Myelography

Group	Headache	Nausea	Vomiting	Pain
A (horizontal)	16 (53)	19 (63)	14 (47)	6 (20)
B (45°)	13 (43)	12 (40)	4 (13)	5 (17)
C (ambulatory)	16 (53)	6 (20)	4 (13)	3 (10)
Total	45 (50)	37 (41)	22 (24)	14 (16)

Note.—Data on 90 patients. Numbers in parentheses are percentages.

a statistically significant variation among the three groups. Vomiting was most frequent in the horizontal position (group A) and decreased in the semiupright (group B) and ambulatory (group C) positions. This was a statistically significant difference ($p = 0.015$). Ambulatory patients had a statistically significant ($p = 0.015$) decreased rate of nausea compared to patients kept horizontal. Semiupright patients had a decreased incidence of nausea relative to horizontal patients, but this was not statistically significant. No statistically significant difference occurred in the incidence of back and extremity pain in the three groups.

One patient in group A had a seizure. This 21-year-old logger had a previous head injury in 1974. A grand mal seizure 5 hr after myelography lasted 3–4 min. He was treated with phenobarbital intramuscularly and had no more seizures. He did not have a previous history of seizures. Electroencephalography showed mild diffuse disturbances.

Discussion

Several authors have stated they keep their patients semiupright or recumbent after metrizamide lumbar myelography. Skälpe and Amundsen [1] reported that at the end of the examination the patients were kept supine in bed with the head end elevated 10° for 24 hr. Boyd and Gardiner [2] specified that their patients were requested to remain in upright or semiupright for 8 hr. Grainger [3] stated that his patients initially were to sit upright for 6–12 hr but later he

recommended that the patients lie with the head of the bed raised 10° with the head on two pillows. Dr. Gordon Potts [4] suggested that patients be kept upright to pool the contrast agent in the lower lumbar area; this would reduce the metrizamide over the cerebral convexity and might decrease the incidence of side effects.

Our study indicates that the position of the patient after lumbar metrizamide myelography does not influence the incidence of headache; no statistically significant difference occurred in the three positional groups. Headache after metrizamide myelography may be related to a reaction to the contrast agent or to a leak of cerebrospinal fluid from the puncture site. With the smaller 22 gauge needle used with metrizamide myelography, headache secondary to lumbar leak is thought less likely.

The patients in the semiupright and ambulatory positions have statistically lesser vomiting, suggesting an advantage of these positions after metrizamide lumbar myelography. The ambulatory patients have a statistically significant decreased rate of nausea relative to the group kept horizontal. This also suggests the inadvisability of the horizontal positions after metrizamide myelography. Although no statistical conclusion can be drawn on the basis of one case, the only seizure in this series occurred in a patient kept horizontal.

We recommend that patients who have undergone lumbar metrizamide myelography be kept semiupright in bed or allowed to be ambulatory. In our experience, this is associated with decreased vomiting and nausea.

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