ADVERSE REACTIONS TO INTRAVENOUS ANAESTHETICS

Sir,—Although a reduction in the number of deaths attributable to anaesthesia is reported in the latest Office of Health Economics paper, there is a steady increase in the number of reports of “adverse reactions” to anaesthetic drugs, particularly the i.v. agents. The adverse reactions to i.v. anaesthetic agents were reviewed first in a survey published in 1975 (Clarke et al., 1975). A recent review of the situation indicates that the incidence of adverse reactions to Althesin and to other agents remains unchanged and a new report which we hope to publish shortly is in preparation.

Previously we have invited all anaesthetists who see an anaphylactic type of adverse response in a patient to contact us and to take blood samples according to a simple protocol (Watkins, Thornton and Clarke, 1975). The response (20 cases) has been satisfactory so far and we are grateful to those anaesthetists who have taken the time and trouble to forward the necessary samples. Unfortunately, we are investigating only a small fraction of the patients exhibiting adverse reactions throughout the country.

The clinical features of the adverse response, flushing, hypotension and bronchospasm, represent a generalized response. These changes do not identify a particular agent or indicate the mechanism of the reaction, since it is difficult to distinguish clinically between “immune-mediated” hypersensitivity reactions and direct pharmacological effects. Previously, however, we have demonstrated activation of complement C3 in the histaminoid reaction to i.v. anaesthetic drugs (Watkins et al., 1976). This relatively simple laboratory technique appears to provide a convenient method of distinguishing the type of adverse reaction. We are beginning to understand the mechanisms of the reaction, but more data are required before we can predict a particular patient’s ability to tolerate an anaesthetic drug.

Once more, we invite all anaesthetists who see an anaphylactoid response in a patient following induction of anaesthesia with any i.v. agent to take blood samples, according, if possible, to the protocol described below, and to contact:

Dr John Watkins, Protein Reference Unit, Department of Immunology, Hallamshire Hospital Medical School, Sheffield, S10 2RX (tel. 0742–26484, ext. 232 or 229).

Venous blood (5 ml) should be collected into either a heparinized or an EDTA tube as soon as possible after the reaction begins. In view of the deterioration of complement components in blood samples, it is recommended that the plasma is separated and stored at –25°C until ready for despatch. It would also help the investigation if samples of blood (taken in EDTA tubes immediately at the time of the reaction, and at 10 min and at 1 h after the reaction) were sent to the local haematology laboratory for total and differential white cell counts. Further samples of 5 ml of blood (heparinized or in EDTA) should be taken at 3, 6 and 24 h after the reaction, and another 5 ml taken, if possible, not sooner than 5 days after the event. This provides a convenient baseline for the patient.

Full records of the incident (including batch numbers of the drugs given at induction) should be kept and the first series of samples (taken over 24 h) should be despatched as a single batch as soon as possible by first class mail to Dr Watkins. Packing the samples in “dry ice” is not necessary. Receipt of the blood samples will be acknowledged and results of the blood assays will be communicated as soon as available. We advise that any skin testing of the patient should be delayed until the examination of the blood samples has been completed.

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REFERENCES

CONTRAST MEDIA FOR LOCATION OF EXTRADURAL CATHETERS

Sir,—In a recent case report Boys and Norman (1975) described an accidental subdural injection of bupivacaine during the performance of extradural analgesia. They made this diagnosis by demonstrating the location of the catheter tip using a radio-opaque contrast medium and recommended for this procedure iocarmic acid (Dimer X), a water soluble contrast medium.

The use of water soluble contrast media for myelography has resulted in serious reactions (severe muscle spasms, convulsions, paralysis, shock and death) (Wollin et al., 1967; Feingold, Elam and Dobben, 1970; Ranhosky, 1975). The authors’ recommendation of iocarmic acid requires further documentation.

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REFERENCES

Sir,—We advocate catheter tip localization only for atypical extradurals and we support Dr Feingold’s concern about the injection of water-soluble contrast media where clinical features are highly suggestive of placement of the catheter tip in the subarachnoid space.