

centre. I feel suré they would either group his employees or provide the necessary serum rather than encourage him to use a method which is unsafe, apart from being quite costly.—I am, etc.,

Sutton, Surrey.

R. A. ZEITLIN.

### Animals in Research

SIR,—I should like permission to express my wholehearted support for your correspondents Dr. G. L. Davies (*Journal*, August 6, p. 378) and Dr. G. Whitwell (*Journal*, September 10, p. 681). Experiments on animals have become so dominant a cult that in our teaching schools nothing in medicine or surgery is accepted unless it has been "confirmed" by animal experiments even though the facts have been established for many years—unless of course it is expedient not to accept the confirmations (*vide Semmelweis*). Apart from the brutal type of physiological experiments, such as drowning experiments with 160 dogs, which Dr. K. W. Donald (*Journal*, July 16, p. 155) found "particularly interesting," standardization of drugs and physicists' accurate scientific measurements of irradiation fail to give the practitioner the slightest indication of the most variable factor—the response of the patient. Consequently he may lose his patient with a standard dose. Medicine is an art and not a science, and I believe that the patient is far safer in the hands of the practitioner who administers his treatments cautiously, but empirically, than in the hands of one who administers the most accurately determined scientific dose which the vivisectionists have supplied.

I note that you, Sir, head the correspondence column with this note: "*Because of the present high cost of producing the Journal, and the great pressure on our space, correspondents are asked to keep their letters short.*" In view of this, can the publication on "Drowning," containing so many thousand words and occupying so many pages, be justified? Is not the essential gist of it already well known to all practitioners? It is to be found in the handbooks on first-aid for novices. I have one before me which bears it in block letters: "Artificial respiration must begin immediately. The assistants must be warned that their actions must, on no account, interfere with artificial respiration." Surely only a consultant would attempt to stop it to examine the patient.—I am, etc.,

Birmingham, 15.

JAMES F. BRAILSFORD.

SIR,—Your correspondent Dr. W. Lane-Petter (*Journal*, September 24, p. 788) evidently believes there may be a way of more or less drowning and reviving animals which is not cruel. We would be glad to know more about it. He would hesitate to suppose any experimenter capable of cruelty, but he says that, on occasion, they cause severe suffering. I find that rather odd.—I am, etc.,

Manchester, 14.

J. L. DOBBIE.

### Contraindications to Thiopentone Anaesthesia

SIR,—The leading article (*Journal*, October 1, p. 836) on contraindications to thiopentone anaesthesia will be welcomed by every anaesthetist. It gives a timely reminder of the potential dangers of this anaesthetic. In the hands of the inexperienced thiopentone may become a lethal weapon, and this has already been the subject of legal comment.<sup>1</sup>

Many of these dangers are, however, avoidable if soluble hexobarbitone is used instead of thiopentone. It is unfortunate that the greater safety of this drug was lost sight of with the introduction of the much more potent drug thiopentone. No case of gangrene following intra-arterial injection of soluble hexobarbitone has ever been reported, while perivenous injection does not produce a slough. Recent work by Mayrhofer<sup>2</sup> has shown that bronchial spasm is four times more common with thiopentone than with hexobarbitone.

In the past there have been objections to the use of hexobarbitone on the grounds that it did not produce sufficient

depth of anaesthesia, but with the almost universal use of muscle relaxants these objections are no longer valid. Indeed, the combination of hexobarbitone and a muscle relaxant produces a much smoother anaesthesia.

Lastly, but by no means least, the teaching of anaesthesia to students and newly qualified housemen is a much safer procedure where hexobarbitone is the intravenous drug used, and not thiopentone.—I am, etc.,

London, W.1

MASSEY DAWKINS.

### REFERENCES

- <sup>1</sup> *British Medical Journal*, 1951, 2, 422.
- <sup>2</sup> Mayrhofer, O., *Der Anaesthetist*, 1954, 3, 105.

SIR,—Your leading article on thiopentone (*Journal*, October 1, p. 836) would seem to call for comment in several respects. In particular, the advocacy of thiopentone followed by succinylcholine, and intubation with a cuffed endotracheal tube for cases of intestinal obstruction and possibly for obstetric cases, must not be allowed to pass without qualification.

The passage of a stomach tube cannot with certainty ensure the complete evacuation of the contents of that organ, especially as the tube is frequently of the Ryle's type and not full size. In addition, the tube is not infrequently found coiled in the pharynx, when a reassuringly dry aspiration will be obtained. Under these circumstances succinylcholine should never be used as a relaxant for intubation without first ensuring a head-up tilt of at least 20 degrees. This avoids the possibility of passive regurgitation of gastric contents as the relaxant takes effect, a danger which is very real and once happened to the writer, fortunately without grave result. In obstetrical work it is not usually practicable or expedient to pass a stomach tube, although a full stomach is not unlikely. In addition, the operating table, especially during forceps deliveries, is frequently incapable of adjustment. Under these circumstances, therefore, the use of succinylcholine as a relaxant would seem inadvisable, and a more simple technique of nitrous oxide, oxygen, and trichloroethylene or ether would be more suitable.

The dangers of tissue necrosis and gangrene associated with the use of thiopentone can be very largely abolished by using for venepuncture a vein on the dorsum of the hand in preference to one in the cubital fossa. Although it is more painful than in the latter position, intra-arterial injection is impossible and the local swelling of extravascular injection is immediately apparent before more than a few minims have been used. After a little practice venepuncture in this locality will very frequently be found easier than in the cubital fossa, especially in obese patients, provided sufficient time is given for the veins to become distended.

Finally, the avoidance of giving repeated doses of thiopentone with its cumulative action over several days has been emphasized by Dundee,<sup>1</sup> whilst Pender<sup>2</sup> has shown that patients undergoing cortisone therapy react badly to both barbiturates and opiates.—I am, etc.,

Edgware, Middlesex.

A. VIVIAN JENKINS.

### REFERENCES

- <sup>1</sup> Dundee, J. W., *Anaesthesia*, 1955, 10, 139.
- <sup>2</sup> Pender, J. W., *Wis. med. J.*, 1954, 53, 215.

SIR,—In the leading article (*Journal*, October 1, p. 836) on contraindications to thiopentone anaesthesia it is suggested that in cases of intestinal obstruction the stomach should be evacuated, and then induction of anaesthesia with thiopentone and succinylcholine should be followed by immediate insertion of a cuffed endotracheal tube. I think that this description needs amplifying.

It is seldom possible to be absolutely certain that the stomach has been successfully evacuated, and, if not, regurgitation may occur with the above technique, *if the patient is in the horizontal position*. It has been suggested that this may be prevented by using a foot-down tilt of at least 20 degrees.<sup>1</sup> This tilt should be mentioned again if the same technique is to be advocated in obstetrics.