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Correspondence

INDOKLON CONVULSIVE THERAPY

DEAR SIR,

We would like to comment upon the pilot study of Indoklon by D. R. Gander and others (*Journal*, December, 1967, p. 1413). This "pilot study" is referred to as an "investigation . . . designed to evaluate Indoklon in terms of (*a*) therapeutic action and safety in comparison with E.C.T., (*b*) technique of administration, (*c*) side-effects, (*d*) convulsant properties."

Method: "Alteration (of convulsant agent) at weekly intervals until maximum improvement"; how is the efficacy of mixed methods evaluated? May we suggest that it would have been better to establish a routine satisfactory technique of administration before embarking upon a trial of clinical efficacy?

Patients: "Had not had E.C.T. in the preceding month." Does this mean patients who had been treated more than a month previously but relapsed? If so, what was the number and frequency of the earlier treatments—and the prognosis when included in this study?

Technique of Administration: "Standard E.C.T. procedure." Does this mean the electrical output of the apparatus was constant for each treatment? If so, how was this achieved with the apparatus mentioned? If not, what was "standard"?

The Inhalation Apparatus (*Fig. 1*): Some unfamiliarity on the part of the authors with the inhalation apparatus is implied by the fact that the photograph shows the vaporizing chamber upside down. With the doses of Indoklon used, it is certain that liquid inhalant would find its way into the mouth and nose if the apparatus were indeed applied in this way.

The authors refer to a "large dose" of 1·5–3·0 ml. and a "standard dose" of 0·5 ml. We have rarely found it necessary to exceed 0·35 ml. to achieve the "all or none" tonic-clonic response. Why use more and induce unnecessary side-effects?

Measurement: (*b*) *Type and Duration:* There should be *no* difficulty in detecting the onset or end of the therapeutic convulsion. (*f*) *Side-effects:* It is not really relevant to comment upon the points mentioned in the face of the gross over-dosage of Indoklon used. Faulty administration and over-dosage would account for most of the side-effects met with.

Serious Side-effects: (Patients) "resisted violently any attempt at interference". Surely the one guiding principle about managing the patient after treatment is the avoidance of interference. The statement that "none of these reactions was directly related to the dose of Indoklon" is in our view inappropriate.

Discussion: No mention is made of drugs which patients might have been taking concurrently. If anti-convulsant anaesthesia is used, namely thiopentone 500 mg. (and if, for instance, the patient is having diazepam) massive doses of Indoklon are needed to induce the fit. "The effective dose" was, in our view, an over-dose.

We think some of the imperfections of procedure might not have arisen if the authors had been familiar with recent work and if their "study" had been differently planned. When they say "so far it (Indoklon) has not been investigated in this country" we feel we should mention the paper on "Flurothyl—a new inhalant convulsive" presented with a short film (by A.W.) to the Association of Anaesthetists of Great Britain and Ireland in November, 1966. (This formed the basis of a paper by us "Flurothyl (Indoklon)—experience with an inhalational convulsant agent" published in *Anaesthesia* in July, 1967; a smaller paper by us on "Flurothyl-Induced Convulsions—two specific indications" was published in the *Clinical Trials Journal* in May, 1967.)

Summary: The authors state "because it (Indoklon) is more cumbersome and attended by more frequent side-effects it is unlikely to become a real alternative to E.C.T."; this is a faulty conclusion based upon the wrong facts. It may not be out of place to remind the authors of modern electroplexy technique (and side-effects) compared with those of 1938.

LOUIS ROSE.
ANDREW WATSON.

Department of Psychological Medicine,
St. Bartholomew's Hospital,
London, E.C.1.

DEAR SIR,

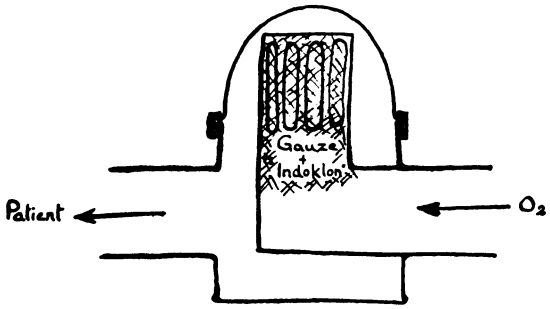
I would like to answer the criticisms raised by Drs. Rose and Watson.

Method: We appreciate the limitations of the method, but since this was a pilot study we decided on the method described so that the patients could be used as their own controls. Any alternative method would have necessitated two separate controlled studies.

Patients: These were selected as outlined in our paper. Some had had E.C.T. in the preceding year, but to give complete details of every patient's past history would have been difficult. We considered that our method of using each patient as his own control would produce more valid comparative results.

Technique of Administration: The electrical output of the Ectron machine was manually controlled to give a two-second discharge.

Inhalation apparatus: Since I fail to see why Drs. Rose and Watson are so certain that liquid Indoklon would find its way into the patient's mouth and nose, I append a diagram of the apparatus as we used it. It requires only an elementary knowledge of physics to see that any excess liquid would flow away from the patient rather than towards him. Furthermore, we were anxious to avoid contact between liquid Indoklon and the plastic dome of the chamber because we had reason to believe that certain plastics were soluble in liquid Indoklon.



Vaporisation Chamber

Although Drs. Rose and Watson have used a dose of 0·35 ml., a number of earlier workers, e.g. Padula and Karliner, used 2·0 ml. As we have noted in our paper, there were occasions when the lower dosage failed to induce a fit. Even with the lower dosage of Indoklon side-effects were experienced in over fifty per cent. of cases, more than twice as many as with E.C.T. We mentioned also that the effective dose depends not only on the amount of Indoklon in the vaporizer but also on the number of times the patient is reventilated.

Measurement: Type and duration. Despite the assurances of Drs. Rose and Watson, there was on several occasions considerable difficulty in detecting the onset and particularly the end of the therapeutic convulsion.

Side-effects: I have dealt with this point above.

Serious side-effects: We agree entirely with Drs. Rose and Watson on the point of avoidance of interference after treatment, but when a patient is confused, and is climbing over the side of his cot, having pulled a light fitting off the wall, some degree of interference is clearly necessary.

Concurrent Medication: One of the advantages of the method we adopted was that E.C.T. and Indoklon could be compared in the same patient with the same background of concurrent medication. None of these patients was having diazepam.

Discussion: Our work preceded the publications mentioned by Drs. Rose and Watson. Our paper was clearly stated to have been received by the *Journal* on December 15, 1966.

It seems to us that our conclusion that Indoklon is no real alternative to E.C.T. is neither "faulty" nor "based upon the wrong facts". However, one must concede, as Drs. Rose and Watson seem to suggest, that with suitable modification it may some day achieve a comparable therapeutic role.

D. R. GANDER.

Queen Elizabeth II Hospital,
Welwyn Garden City, Herts.

COGNITIVE DISORDER IN THE SCHIZOPHRENIAS

DEAR SIR,

Costello (*Journal*, February, 1968, pp. 244–245) writes: "The contrast between these (i.e. Cooper's) relatively high correlations and the rather low ones found by Foulds *et al.* points . . . to a weakness in the clinical concept of thought disorder." This presumably means that the clinical concept is too easily open to misinterpretations which, impliedly, our psychiatrists made to a greater extent than his. We were concerned with replication, and consequently our psychiatric colleagues followed Bannister's procedure of using exact specifications from Mayer-Gross *et al.* We are as sorry as Costello that we did not get higher correlations under these enforced circumstances.

We pointed out some of the difficulties concerning rating of chronics; but Costello, in addition, believes that ratings of chronics would inevitably be clouded by recall of the patient's state on previous occasions. Since he also believes that acutes would have been seen much more frequently, clouding should be greater in their case.

We are not at present planning studies of thought content disorder.

G. A. FOULDS.

M.R.C. Unit,
Royal Edinburgh Hospital,
Morningside Park, Edinburgh, 10.