Personality Predisposition and Emergence Phenomena with Ketamine

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INTRODUCTION

In a previous publication the psychotomimetic properties of Ketamine and its abreactive uses in psychiatry were reported.[1] It was shown that this short-acting anesthetic agent[2] produced emergence phenomena which could be used in psychiatry for abreaction. In addition, it had mind-expanding properties which at times brought about unpleasant side effects. It was in the latter context that attempt was made to determine the type of emergence phenomena and to discover any possible correlation between these reactions and the type of peronsality involved.

MATERIAL AND METHOD

The criteria for inclusion in this study was minimum age of 14 and ability to read the questionnaire. Out of a total 1,352; 606 individuals satisfied the above conditions. To determine the three dimensions of personality; Extraversion (E), Neuroticism (N), and Psychoticism (P), a Persian adaptation of Eysenck's Personality Inventory (EPI) with Psychoticism scale was used[3]. This contained 80 questions which were answered by the patient the night before the operation.

The patients were kept under close observation from the time that Ketamine was given until they were fully conscious and ready to go to the ward. In addition they were questioned directly about their experiences, recalls, dreams, and whether they liked it or not. To prevent premature reactions, stimuli were kept to a minimum. All obervations were recorded and the patients' utterances were taken down verbatum. At the end of the study the results of the above observations were compared with the scores made in the questionnaire. The maximum score accepted as normal for E and N was 11, and for P was 5. When E fell below 5, it was considered an indication of Introversion.

RESULTS

Out of a total of 606 patients, 394, or 65%, showed no reaction. All of them had normal scores. The remaining 212 patients, or 35%, fell into the following seven groups, according to their various scores.

1. Group E. Sixty-five patients (10.7%) scored high in E. All of them scored over 14. They experienced pleasant dreams, and some of them even felt they were in heaven among angels! Later questioning showed they were all devoted Moslems. Others felt they were travelling or chatting with friends. All of them expressed their willingness to undergo the experience again.

2. Group N. Seventy patients (11.5%) had high scores in N. Again none fell below 14. They all felt dizzy and related that to an experience of falls or rapid circular movements. They were indifferent to future use if the agent.

3. Group P. Only 15 patients (2.4%) high in P. They all reported body image distortions, loss of control over their limbs, and a sensation of a part of their body floating. Two patients felt their trunks and chests were missing. Six male patients felt they were being chased and wanted to run away screaming in the process. All of them had operations on the genitalia and perineum. Two women stated that they had a peculiar feeling that they were being raped; both had had dilatation and curettage. In some the reaction was such that it had to be ended with Perphenezine 5 mgs. I.M. All refused to go through the experience again.

4. Group NP. Fourteen patients (2.3%) scored high both for N and P. They had the combined experiences of groups N and P, making them feel terrified and most apprehensive. They were adamant as to future use of Ketamine.

5. Group PE. Ten patients (1.6%) scored high both in P and E. They screamed or laughed and had increased motor activity and some used foul language, while regaining consciousness. They all stated that they had a good time and the screaming was because of losing the pleasant feeling. They were willing to undergo the experience again.

6. Group NE. Eighteen patients (2.9%) had high scores in N and E, and although they had the feeling of falling or circling, it was not at all unpleasant. One male patient stated that it was like a funny orgasm without ejaculation. They did not mind the future use of Ketamine.

7. Group Low E. Twenty patients (3.3%) scored

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5 or lower in E. They cried and used profanity mostly directed at their close friends and relatives. After regaining consciousness, 10 of them had amnesia but the rest stated that they knew they were using profanity but could not control it. None wished to go through the experience again.

DISCUSSION

Ketamine, a derivative of Phencyclidine, is a short-acting anesthetic agent which produces disconnection rather than sleep.[4] It has proved a useful chemical for a variety of operations requiring up to one hour of anesthesia.[2] It is now considered safe with no serious side effects. However; the emergence phenomena frequently encountered in induction with Ketamine has warranted some precautions.[5,6] It was with this in mind that the present study was undertaken.

The results clearly showed that in the majority, 65% in the present series, no reactions were noted. More important, of the remaining 35%, only a few, no more than 8% of total, had unpleasant side effects. Indeed, in some the "trip" was a joyous experience!

In this study the EPI was found to be most useful in predicting the type of reactions. Those with high scores in E, EP, and NE had pleasant experiences, with N being indifferent but not averse to its use in future inductions. Only those with high P, NP, and low E had negative responses and did not wish to undergo the experience again. It should be emphasized that in no instance in this series was there any doubt in scoring and it fell either below 11 or above 14 for N and E.

Should future research with this chemical and its emergence phenomena confirm these findings, particularly in different cultures, then a simple questionnaire may help the anesthesiologist to select suitable candidates for Ketamine induction.

SUMMARY AND CONCLUSION PERSIA

A total of 606 patients were given a Persian adaptation of EPI with psychoticism scale, the night before Ketamine anesthesia for operation. Sixty-five per cent showed no reaction. Of the remainder only 8% had unpleasant experiences. They were found to belong to three groups scoring high in P, PN, and low in E. The test was found to be reliable in predicting the outcome! Finally, in emergency situations requiring Ketamine anesthesia, the drug may be administered without hesitation, since only a small minority have unpleasant side effects and when severe may be easily counteracted with the use of a neuroleptic.

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Editor's Note:—This is a real feather in the cap of the Academy. Thanks go to all of the officers and members who helped us put this across.

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