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#### Tourette's syndrome and the amygdaloid complex

SIR: We would like to comment on the paper by Jadresic (*Journal*, October 1992, **161**, 532–534) in which she has proposed that the 'amygdaloid complex' is central to the generation of the symptoms of Tourette's syndrome (TS).

Dr Jadresic advocates a pivotal role for the amygdala on the basis that vocalisations elicited from the amygdala are clearly related to emotional state in animals, and that vehement swearing with angry affect accompanied amygdaloid stimulation in one subject who was suffering from an aggressivity disorder. We would argue that these findings militate against a primary involvement of the amygdala. Tourette's syndrome vocalisations are not necessarily accompanied by aggressive affect; indeed, Nuwer (1982) has stated that "the form of coprolalia (in TS) differs from that of purely emotionally generated obscenity in its cadence, pitch, volume and context, as well as in other ways".

Conversely, Dr Jadresic states that electrical stimulation of the cingulum, pontive tegmentum and the periaqueductal grey matter (PAG) trigger vocalisations which are devoid of emotional content. However, it may be noted that her source, a review by Bonnet (1982), took information from a further review by Jurgens & Ploog (1981), which in turn was taken from the experiments of Jurgens (1976). The original work used a form of place-preference test in a shuttle-box to estimate the rewarding or aversive properties of brain stimulation which was accompanied by vocalisation in the squirrel monkey. This is rather different from claiming that the vocalisations so induced were devoid of emotional content. Two groups of areas elicited vocalisation; in the first, which included amygdala, hypothalamus, substantia nigra, and rostral PAG, vocalisation was accompanied by motivational changes, while in the second, including the cingulate gyrus, caudal PAG, and adjacent parabrachial region, motivational changes were absent or variable. In our view the lack of any close coupling between TS vocalisations

and affect suggests a possible involvement of this second group of brain areas in TS vocalisation.

With regard to Dr Jadresic's neurobiochemical observations, dopamine antagonist neuroleptics do indeed ameliorate the symptoms of TS, but are effective in only 60–70% of cases and rarely abolish them. There is also a possibility that their effectiveness is related to 5-HT<sub>2</sub> rather than dopamine receptor blockade (for review see Handley & Dursun, 1992). That there is a dopamine input to the amygdala is not an argument for amygdaloid involvement, since such inputs exist to many other parts of the brain. Although an example is quoted of exacerbation of tics and induction of coprolalia by fluvoxamine, it may be noted that exacerbation, improvement, and no change, have been noted in other TS patients treated with selective serotonin-uptake inhibitors (Handley & Dursun, 1992).

Clues to the brain areas and neurotransmitters which may be affected in TS would indeed be of enormous value. However, we do not believe that Dr Jadresic has made a case for a key role of the amygdaloid complex.

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#### Propofol and ECT

SIR: We are able to support the retrospective observations of Mitchell *et al* (*Journal*, December 1992, **161**, 861–862) with the preliminary results of our prospective randomised comparison of methohexitone and propofol in terms of seizure duration and outcome in electroconvulsive therapy (ECT). It has often been demonstrated that seizure duration is

shorter with propofol and an assumption has been made, drawing on studies of seizure duration, that this will inevitably lead to reduced efficacy.

Twenty patients fulfilling DSM-III-R criteria for major depressive disorder were rated using the 17-item Hamilton Rating Scale for Depression (HRSD; Hamilton, 1967) and the Beck Depression Inventory (BDI; Beck, 1961). Mean length of fits (17.5 seconds) and mean total length of fits (118.9 seconds) for the propofol group were significantly different than for the methohexitone group (25.5 and 175.5 seconds respectively;  $P < 0.05$ ). We found a significant improvement on both HRSD and BDI ratings in both groups but no difference in the number of treatments needed to give a 60% improvement in ratings. Indeed, there were more treatment failures, defined as those patients who failed to show a 60% improvement over the course of ECT, in the methohexitone group than the propofol group.

ECT studies, when measuring outcome, are fraught with difficulties. It is, nevertheless, crucial that we understand the effects of changes in anaesthetic practice on the treatment we prescribe. It is not sufficient to concentrate on fit duration and current as a measure of the success of ECT. The standard by which any treatment is measured ought to be as close to the desired clinical effect as possible.

We believe our study, which is still being analysed, is the first to compare methohexitone and propofol prospectively in terms of clinical response. There is a continuing need for more research into ECT, using large samples, if we are to shed light on the mechanisms involved.

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#### Suicide prevention by general practitioners

SIR: Dr MacDonald ends his letter (*Journal*, October 1992, **161**, 574) with a plea: "So please, can we now have a moratorium on this idea that practitioners can prevent suicide?" Such a view cannot be allowed to go unchallenged.

Glancing through the *Oxford Textbook of Medicine* we found the following incidence rates of some common organic disorders: Crohn's disease 7.1, ulcerative colitis 10–12, multiple sclerosis 0.5–9.5 (all per 100 000 population). In 1989 the overall suicide rate throughout England and Wales was 7.4. So why the defeatist attitude about suicide prevention, particularly when we know that the majority of persons who end their lives seek help in the final week of their lives? We have never heard complaints that early detection and treatment of the organic diseases cited above is not feasible because they are so rare.

We accept that prevention of suicidal behaviour will partly depend on social changes which are more the responsibility of politicians than clinicians. There is no doubt, however, that clinicians should have a major role. This includes general practitioners (GPs) as well as members of psychiatric services. The potential preventative role of GPs is supported by the finding of a significantly decreased suicide rate on the Swedish island of Gotland following an educational programme for GPs on the assessment and management of depression and suicidal potential (Rutz *et al*, 1989).

By focusing on suicide prevention we open up crucial aspects of clinical care. The assessment and management of severe mental illness (especially depressive disorder), and of suicide risk itself (both in hospital as well as in the community), are perhaps the most important of these. Effective prevention of suicide is a goal which surely will be achieved as the end result of improvements in clinical techniques relevant to the whole of psychiatric experience. Why not accept that these are in urgent need of attention?

RUTZ, W., VON KNORRING, L. & WALINDER, J. (1989) Frequency of suicide on Gotland after systematic postgraduate education of general practitioners. *Acta Psychiatrica Scandinavica*, **80**, 151–154.

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#### Psychosis and multiple sclerosis

SIR: The application of sophisticated neuro-imaging technology to the detailed evaluation of patients such as those described by Feinstein *et al* (*Journal*, November 1992, **161**, 680–685) may yield potentially important clues to the aetiology of 'functional' psychoses, and we have recently employed this strategy in the study of schizophrenia (Buckley *et al*,