DEXAMETHASONE SUPPRESSION TEST IN OBSESSIVE COMPULSIVE DISORDER

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SUMMARY

Dexamethasone Suppression Test (DST) was performed on twenty five patients satisfying Research Diagnostic Criteria for the diagnosis of Obsessive Compulsive Disorder. Abnormal DST responses were seen in twelve (48%) patients. It was observed that the non-suppressor group scored significantly more on depression and obsessionality. The implications of the results are discussed.

Studies relating to Dexamethasone Suppression Test (DST) in obsessive compulsive disorder (OCD) are few and inconclusive. Schlesser et al. (1980) were unable to demonstrate any abnormal DST responses but Insel et al. (1982) have reported such abnormalities in OCD. In a recent review on DST, Carroll (1985) has very cogently argued that abnormal DST response is specific for depression, and in other psychiatric disorders, it is abnormal only in the presence of significant depression.

The present study aims to estimate the frequency of abnormal DST responses in a carefully selected group of OCD patients. Quantification of depression and obsessive compulsive phenomena were done by employing reliable and well known assessment instruments.

Material and Methods

25 patients satisfying Research Diagnostic Criteria (Spitzer et al. 1978) for the diagnosis of OCD comprise the study sample. Exclusion criteria for DST as described by Carroll et al. (1981) were followed while selecting patients.

Patients were evaluated on the Leyton Obsessional Inventory (Cooper 1970) and Hamilton Depression Rating Scale-HDRS (Hamilton 1960). The Body Mass Index was calculated according to the formula of Hallstrom et al. (1983).

Informed consent of the patients for the inclusion in the study was obtained. Blood samples for cortisol estimations were drawn at 08:00 hours and 16:00 hours on two consecutive days. 1mg of Dexamethasone was administered through oral route at 23:00 hours on the first day. Because of this procedure, the patients were thought to be their own controls, hence, employment of an additional control group was not deemed to be necessary.

Serum cortisol was estimated by radioimmuno assay using WHO matched reagents (WHO 1981). The co-efficient of variation for within assays was 8.9% and for in between assays was 10.3%. The technical personnel performing the assays was blind to the diagnosis of patients and timing of samples.

Cortisol values are expressed as n mols/L and values > 140 n mols/L following dexamethasone administration are considered to indicate non-suppression.

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The data were analysed by $X^2$ test for non-parametric variables and Students' $t$ test for parametric variables.

**Results**

The study sample comprised of 25 patients satisfying Research Diagnostic Criteria (Spitzer et al. 1978) for the diagnosis of OCD. Of these, 14 were males and 11 females. 16 patients were married and 9 were single. All patients were new contacts. 9 patients were hospitalized at the time of the study, 16 received treatment from outpatient department. Apart from 3 patients who were on benzodiazepines, rest of the patients were not on any medication at the time of performing DST. The three patients who were on benzodiazepines were given a drug wash-out period of 7 days, only then DST was performed.

Of the 25 patients studied, 12 patients (48%) showed non-suppression. The suppressor and non-suppressor groups did not show any significant difference on variables like current age and Body Mass Index. However, on variables like duration of illness, HDRS score and Leyton Obsessional Score, significant differences between these two groups were noted (Table 1).

| Variable                  | Suppressors (n=13) | Non-Suppressors (n=12) | $t$ value |
|---------------------------|--------------------|------------------------|-----------|
| Age (Years)               | $X$                | $S.D.$                 |           |
|                           | 30.61              | 7.06                   | 28.00     | 11.13     | 6.67 |
| Duration of Illness       | 17.15              | 6.12                   | 24.50     | 6.27      | 2.84* |
| HDRS Score                | 17.46              | 4.38                   | 23.25     | 3.46      | 3.55* |
| Leyton Obsessional Score  | 17.15              | 1.51                   | 23.41     | 1.31      | 10.98** |
| Body Mass Index           | 88.68              | 2.99                   | 87.74     | 3.62      | 0.68 |

* Significant at 0.01
** Significant at 0.001

Table 2 shows the serum cortisol values of the suppressor and non-suppressor groups. It can be seen that non-suppressors have significantly high post-dexamethasone cortisol values.

| Serum Cortisol levels in OCD patients ** | Suppressors (n=13) | Non-Suppressors (n=12) | $t$ value |
|-----------------------------------------|--------------------|------------------------|-----------|
| Pre 8 AM                                | 447.38             | 201.26                 | 522.50    | 276.54    | 0.73 |
| Pre 4 PM                                | 319.69             | 214.26                 | 332.83    | 166.36    | 0.12 |
| Post 8 AM                               | 76.76              | 48.59                  | 607.33    | 331.98    | 5.24* |
| Post 4 PM                               | 57.38              | 23.91                  | 416.41    | 275.27    | 4.30* |

* Significant at 0.001
** Serum Cortisol values are expressed as n mol/L

**Discussion**

There are very few studies about DST in OCD possibly because of the rarity of the disorder. Our finding that non-suppressor group has significantly more depression is in agreement with the observation of Insel et al. (1982). However, our results are in conflict with the findings of both Schlesser et al. (1980) and Lieberman et al. (1982) who failed to demonstrate any abnormal DST responses in their patients. Our finding that DST non-suppressors in OCD group had a longer duration of illness deserves comment. It is quite likely that longer duration of illness and depression seen are inter-related.

Our finding of abnormal DST responses in OCD patients with severe depression supports the contention of Carroll (1985) that abnormal DST responses in psychiatric disorders other than major depressive illness, are due to underlying depressive state rather than the primary disease process itself. In this respect it is interesting to note that 9 patients (all in non-suppressor group) also fulfilled RDC criteria (Spitzer et al. 1978) for the diagnosis of major depressive
disorder (MDD). This raises the doubt whether these patients were MDD or OCD. However, taking longitudinal histories of these patients into considerations, it can be said that our OCD patients had secondary depression and those with severe depression displayed abnormal DST responses. Whether DST abnormalities in primary and secondary depressions can be used as an indicator of predicting therapeutical response to tricyclic anti-depressants is an area that requires further exploration particularly in relation to OCD.

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