The dexamethasone suppression test for diagnosing depression in stroke patients

Harvey S A, Black K J

Authors' objectives
To evaluate the literature on the dexamethasone suppression test (DST) as a diagnostic tool for depression in stroke patients.

Searching
MEDLINE, Current Contents and PsycINFO were searched using the keywords (explode) 'cerebrovascular disorders' and 'dexamethasone'. Sources cited in a recent review were also checked.

Study selection
Study designs of evaluations included in the review
'Clinical studies' with sample sizes of 20 or more. These were not further defined in terms of methodological features.

Specific interventions included in the review
Studies of the DST for depression were eligible for inclusion.

Reference standard test against which the new test was compared
The reference assessments included the Hamilton Depression Rating Scale, Modified Present state Exam, Zung Scale for Rating Depressive Symptoms, mood symptom adjective checklists (DAC/VAC) and clinical assessment.

Participants included in the review
No inclusion criteria relating to the participants were specified. Stroke patients seen as in-patients, out-patients and during rehabilitation were included.

Outcomes assessed in the review
No inclusion criteria relating to the outcomes were specified. The outcomes reported in the review were the sensitivity and specificity of the DST and the prevalence of depression.

How were decisions on the relevance of primary studies made?
The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The authors did not state that they assessed validity.

Data extraction
Each study was examined for essential features of its methods and results. The authors did not describe the data extraction process (e.g. how many reviewers were involved).

Methods of synthesis
How were the studies combined?
Estimated positive and negative predictive values for DST in the diagnosis of depression were calculated for the individual studies. Median values for prevalence of mood disorder, specificity and sensitivity were presented.

How were differences between studies investigated?
Heterogeneity was not formally tested. However, the variation in the sensitivities and specificities of the DST test between studies was noted, as was the variation in the prevalence of depression.
Results of the review
Nine studies (n=352) were included.

The median prevalence of mood disorder among post-stroke patients in these studies was 32% (range: 15 to 69).

The specificity of DST was greater than or equal to 67% in 8 of the 9 studies; the median value (9 studies) was 87% (range: 14 to 100). The median sensitivity of DST was 47% (range: 0 to 100).

Authors’ conclusions
Studies performed to date of the DST as a test for depression in stroke patients are limited by a lack of uniformity of the method and important methodological problems. The available data, although limited, suggest that, in some cases, the DST might add substantial diagnostic information and may be useful for the minority of stroke patient for whom a careful clinical evaluation for depression remains inconclusive. As in other applications for this test, sensitivity is low, so treatment should never be withheld on the basis of a negative DST. Further studies of the DST in this population, using more rigorous methods, are needed.

CRD commentary
This review was based on 9 studies of unknown quality which, as the authors acknowledged, had important methodological problems. The review had a reasonably well-defined research question and three databases were searched. However, as no language or date parameters were given, it is not possible to assess how comprehensive the search has been. Some details of the primary studies were tabulated and the authors discussed the variation between the included studies in the narrative synthesis. It is not possible to properly assess the quality of the review since few details of the review methodology were presented. The inclusion criteria used to select relevant studies were not specified and it is unclear what study designs have been included beyond ‘clinical studies’. There was no mention of control groups so the review may be based on observational studies. The authors’ decision not to statistically combine the studies beyond presenting the medians seems appropriate given the variation between the studies.

The relevance of these findings is difficult to assess because, as the authors acknowledged, the difficult-to-evaluate patients were generally excluded from the reviewed studies, yet this is the group most likely to benefit from a laboratory test for depression.

Implications of the review for practice and research
The authors recommended further better quality studies of the DST, as it may be clinically useful for the minority of stroke patients in whom a clinical evaluation of depression remains inconclusive. In addition, the test should be evaluated in difficult-to-assess patients, such as those with aphasia.

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.