Short synacthen tests: Short 0 and 30 minutes versus conventional 0, 30 and 60 minutes

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Aims

This is a study in Blackpool Victoria Hospital of short synacthen tests which were performed between July 2014 and September 2014. The aim of the study was:

- to investigate the positivity of short synacthen tests performed in Blackpool Victoria Hospital over this period
- to compare the sensitivity of the two-sample test (0 and 30 minutes) with the three-sample test (0, 30 and 60 minutes) in detecting adrenal insufficiency
- to examine whether a two-sample test is not inferior to three-sample test in detecting adrenal insufficiency
- to investigate the usefulness of basal cortisol level in identifying adrenal insufficiency
- to implicate the findings into best practice (ie cost-effectiveness).

Methods

This was a retrospective audit which investigated 122 patients in total. We looked to the results through hospital electronic patient records who attended the test in outpatient, inpatient medical wards, short stay ward, general practitioner assessment units, cardiac intensive treatment unit, stroke ward, and cardiac day case unit during the period July–September 2014.

Results

A total of 122 patients were investigated over this period. 80 patients with basal cortisol <500 nmol/L and 42 patients with basal cortisol >500 nmol/L.

17 out of 122 (14%) tests were abnormal (failed the test at 30 minutes).

The majority of the patients who failed the test at 30 minutes failed at 60 minutes as well (9 patients out of 13).

Only 4 patients out of 13 who failed the test at 30 minutes passed the test at 60 minutes.

Conclusion

The results showed that a 30-minute cortisol is reliable enough in identifying normal subjects for excluding adrenal insufficiency, and was effective in identifying abnormal cases, compared with values at both 30 and 60 minutes. This is probably significant as a cost-effective measure in doing a single 30-minute test compared with the conventional short synacthen test.

While 14 tests out of 122 were abnormal at 30 minutes, 108 tests had a normal response at 30 minutes.

Cortisol tests cost the NHS around £11 per test so £1,188 could have been saved by doing only 30 minute tests over a period of 3 months.

The results suggest that a single 30-minute post-synacthen serum cortisol level may suffice, compared with the conventional short synacthen test. However, a wider sample of data might be needed to evaluate the current practice guidelines and to maintain patients' safety at the best standard. ■

Conflict of interest statement

None declared

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