Should all short Synacthen tests be agreed by an endocrine team?

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**Background**
- Short Synacthen tests (SSTs) are used to assess adrenal function by injecting tetracosactide and measuring blood cortisol after 30 and 60 minutes.
- A 9am cortisol or random cortisol in an acutely unwell patient can be sufficient to assess adrenocortical function.\(^1\)
- Steroid therapy can interfere with the interpretation of an SST.\(^2\)

**Data**
- Retrospective audit of 332 patients over 5 years undergoing SSTs at Royal Bournemouth Hospital.
- 55% (182/333) of SSTs carried out at Bournemouth are performed outside of the endocrine department by non-endocrinologists.
- Patients with prior cortisol measurement and those taking steroids whilst the test was performed were identified.

**The use of prior cortisol measurements**

- 49% of patients had no previous cortisol measured.
- A patient with a prior cortisol was less likely to have a basal cortisol >450mmol/L in the SST test.
- Measuring basal cortisol levels could reduce unnecessary SSTs.

**Steroid use during the SST**

- 19% (25/130) of non-BDEC patients were on steroid therapy.
- 44% (11/25) of patients on steroid therapy failed the SST.

**Number of patients on steroid therapy undergoing an SST**

- BDEC performed more 9am and random cortisol measurements on patients before performing an SST (53% Vs. 45%)
- BDEC performed many less SSTs on patients with a sufficiently high previous cortisol level to rule out adrenal insufficiency (8% Vs. 33%)
- Fewer of the patients investigated in BDEC without prior cortisol levels were found to have a raised basal cortisol in the SST (38% Vs. 52%)

**Conclusion**
- Only half of the patients studied had a prior 9am or random cortisol.
- Many of these cortisol readings would have been sufficient to rule out adrenal insufficiency and so avoid an unnecessary SST.
- BDEC was slightly more efficient at using 9am or random cortisol levels to select patients for subsequent SSTs.
- A large proportion of patients undergoing an SST outside of BDEC were on steroid therapy (almost half of these patients subsequently failed the SST).
- All future SSTs at Bournemouth are now going to be discussed with the endocrine department.
- With the cost of tetracosactide rising almost 10 fold recently (£4.87 to £45.71), the potential savings for the hospital are great.
