East Sussex Healthcare NHS Trust

Audit of Short synacthen test at East Sussex Healthcare NHS Trust since introducing new Roche cortisol assay.

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Background

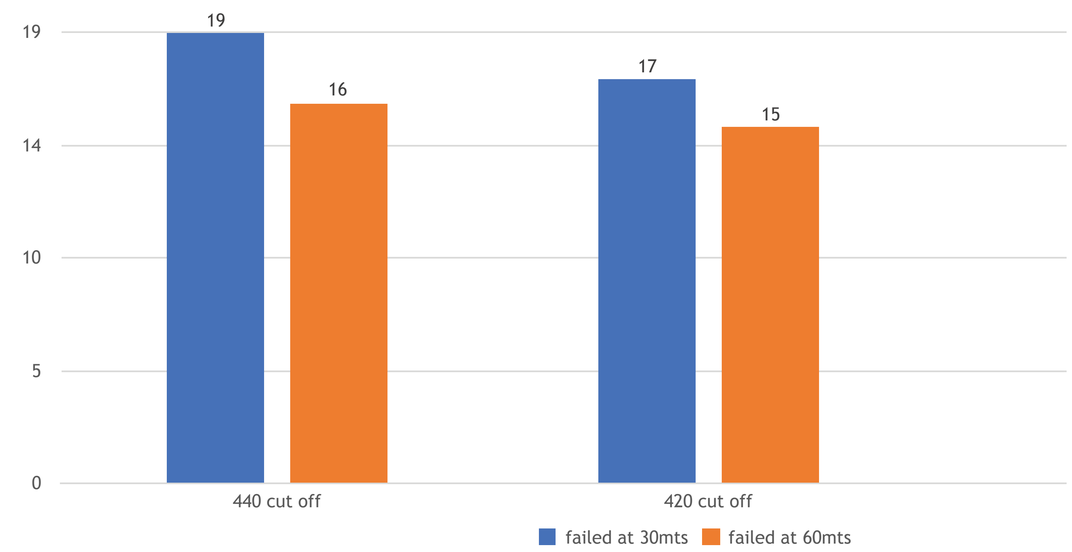
- Our Cortisol assay was changed from older generation assay to new second-generation Roche cortisol assay for the Short synacthen tests.
- There is ~ 20-25% difference in cortisol values between these assays.
- There are debates about the cut off values for normal response (cortisol of 420 or 440 nmols), compared to 550nmols/l with older assay. And to assess the use of 30min and 60min cortisol response.

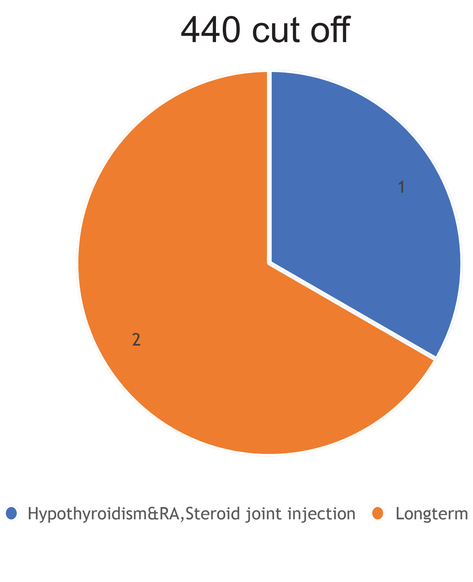
Method

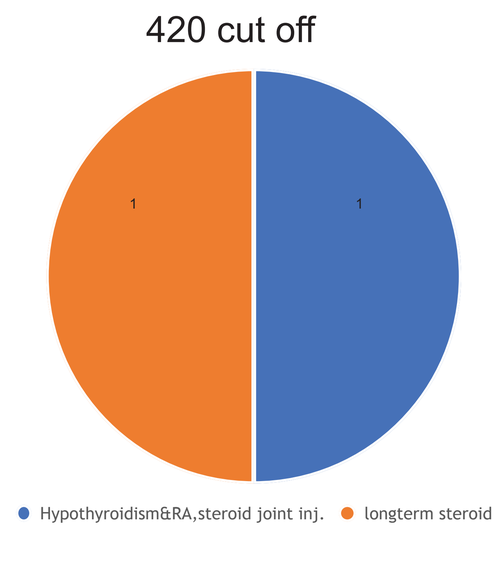
- Short synacthen tests data were collected from hospital database.
- 114 short synacthen tests were performed in our hospital between August 2016 to July 2017.

Findings

Failed Tests







Results

- Out of the 114 patients, 63(55%) were females and 51(45%) were males. Age range varied from 1 to 89 years.
- If 440nmols/l is used as normal response, 19/114patients failed to reach this level at 30min sample, but 3/19 reached the 440nmols at 60mins. 16/114 patient's results were in the inadequate response range. 3 patients who, did not reach the target at 30min but reached target at 60min, were on some form of steroid treatment. (2 were on long term steroids, and one patient has had depo steroid injection)
- If 420nmols/l is used as normal response, 17/114 failed to reach this level at 30min, 2/17 of these patients reached 420nmol level at 60min.one patient was on long term steroids, another had steroid injection.
- One patient who has been confirmed to have Addison's disease with positive adrenal antibody, would have been missed if the 420nmol/L is used as the normal response **(Cortisol values: 149 (baseline), 361 (30min), and 424 (60 min)).**

Discussion and Conclusion

- We recommend changing the protocol for short synacthen test , do only baseline and 30min cortisol and to use the 440mmols as the target range for adequate response.
- And patients who have been on (any form of) long term steroids would need further reassessment if they did not reach the target range at 30min.
- By these changes ,would be able to reduce the cost of the test by 33% and also reduce the endocrine nurses time by 50%
- We are planning to re-audit the Synacthen tests an year after the implementation of theses changes.

References
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