Diagnostic pitfalls of Cushing syndrome without specific clinical signs among patients with obesity

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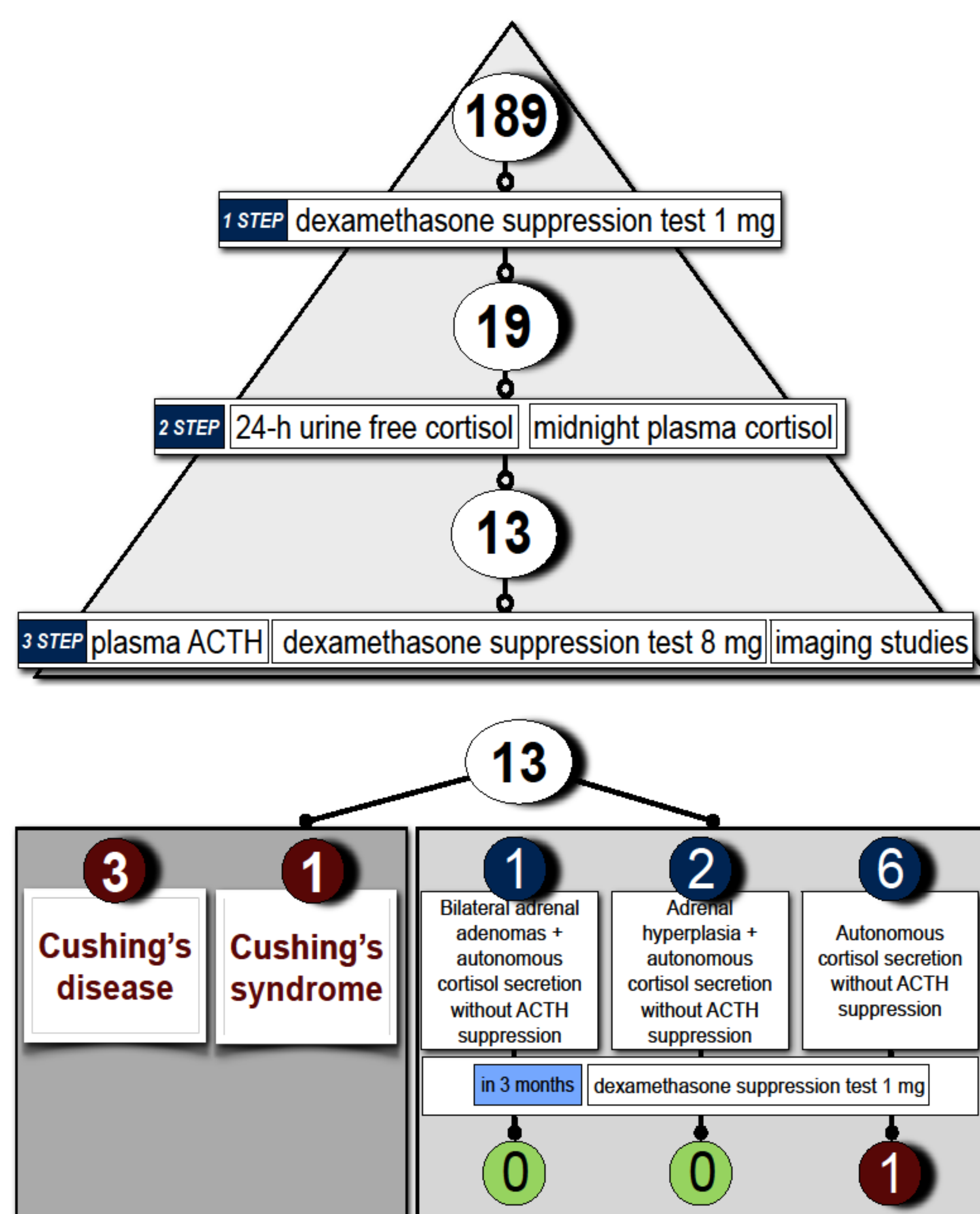
OBJECTIVES

Prevalence of CS without specific signs is thought to be high, which might be an indication for its general screening. However, conclusive data about its diagnostics are absent.

METHODS

- **189 overweight patients** were studied.
- Nobody had clinical evidence of hypercortisolism
- **Diagnostic of CS work up**:
- *Screening test* - 1-mg overnight dexamethasone suppression test (1-mg DST) (cutoff 50nmol/l;
- *Confirmatory tests* - midnight plasma cortisol (MPC) (< 207 nmol/l) and 24-h urinary free cortisol (UFC) (< 180 mcg/24h);
- *Topical diagnostics* - morning plasma ACTH (5-46 pg/ml), 8-mg DST and imaging studies.
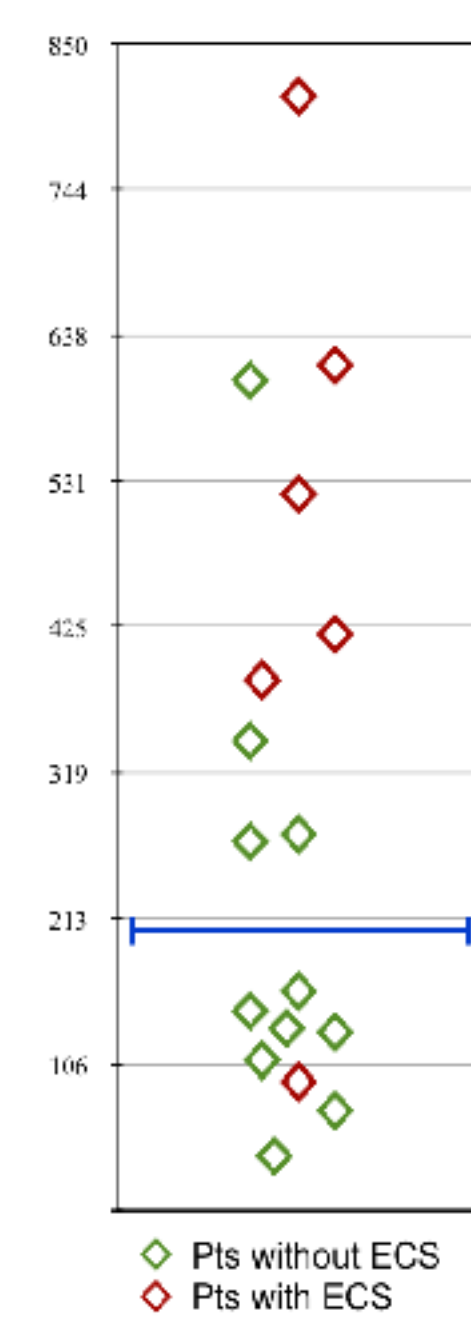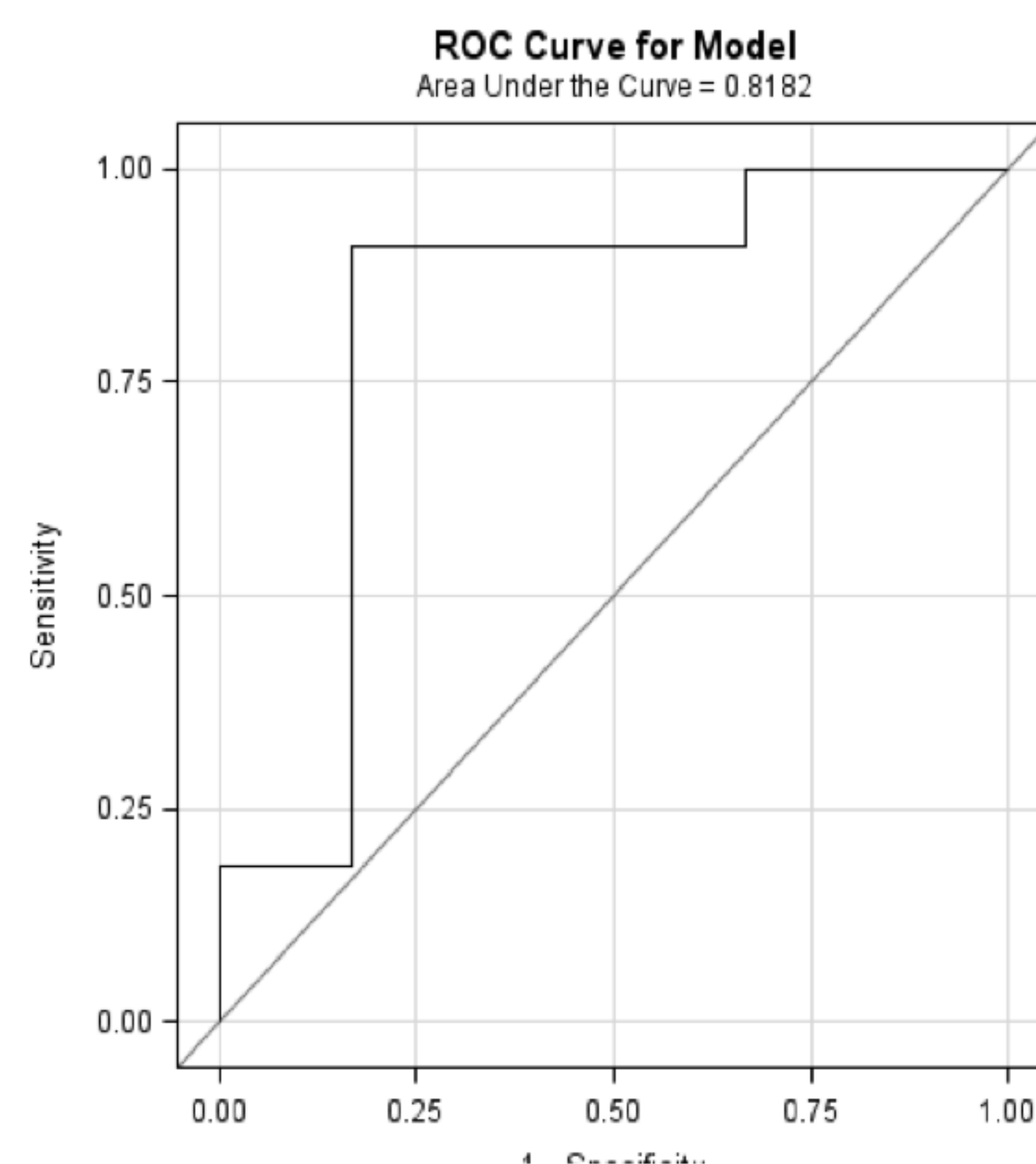
RESULTS

PREVALENCE OF CS

MIDNIGHT PLASMA CORTISOL

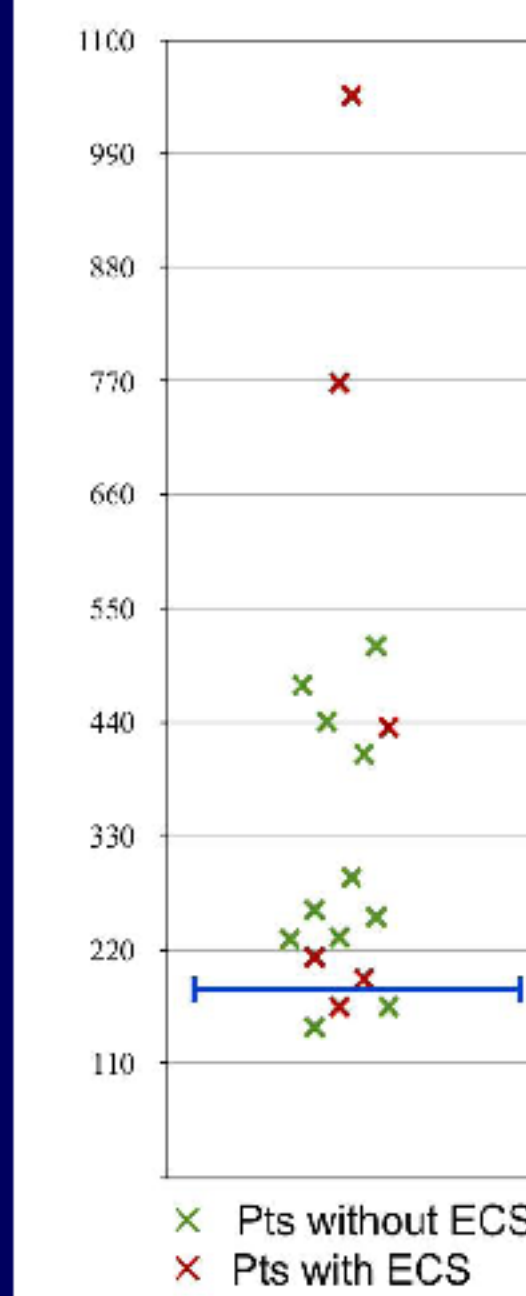#### diagnostic characteristics with cut off

- Sen – 83,33% [95%CI 35,88 – 99,58]
- Sp – 63,64% [95%CI 30,79 – 89,07],
- LR + – 2,29
- LR - – 0,26
- DOR – 8,75 [95%CI 0,73 - 103,82]

diagnostic characteristics without cut off

ROC Curve for Model
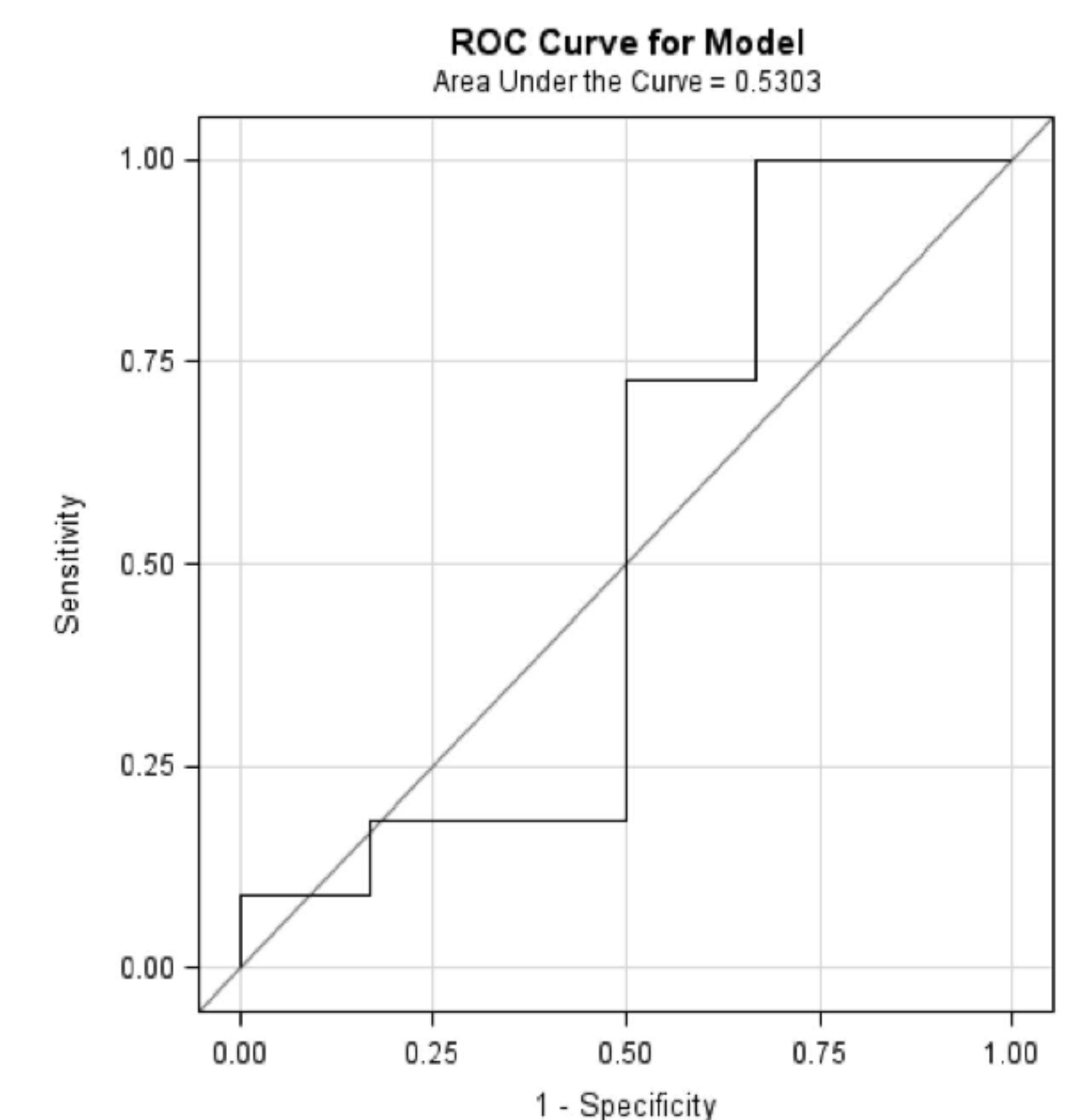Area Under the Curve = 0.8182

URINARY FREE CORTISOL

diagnostic characteristics with cut off

- Sen – 83,33% [95%CI 35,88 – 99,58]
- Sp – 18,18% [95%CI 2,28 – 51,78],
- LR + – 1,02
- LR - – 0,92
- DOR – 1,11 [95%CI 0,07 – 15,53]

diagnostic characteristics without cut off

ROC Curve for Model
Area Under the Curve = 0.5303

References

1. Tabarin A., Perez P. Pros and cons of screening for occult Cushing syndrome // Nat. Rev. Endocrinol. – 2011. – Vol. 7(8). – P. 445 – 455.

2. Terzolo M., Pia A., Reimondo G. Subclinical Cushing's syndrome: definition and management // Clinical Endocrinology. – 2012. – Vol. 76. – P. 12 – 18.

CONCLUSIONS

High prevalence of CS without specific signs was confirmed on our study (about 3%). Among tests used to screen and confirm CS without specific signs, UFC has the worst diagnostic characteristics and, therefore, should not be used. MPC has better characteristics, however, the question of threshold value has to be discussed.