

SCREENING FOR CUSHING'S SYNDROME IN WEIGHT MANAGEMENT: SHOULD THIS BE ROUTINE?

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BACKGROUND

- There is currently limited evidence supporting the role of screening for Cushing's Syndrome (CS) in the context of weight management patients.
- Patients referred to the specialist weight management service at Musgrove Park Hospital are routinely screened for CS with a 1mg overnight dexamethasone suppression test (ODST), or two 24 hour urinary free cortisol collections (UFC) if they are dysglycaemic (known diabetes or impaired glucose tolerance).

AIMS

- To quantify the number of patients with positive CS screening results
- To quantify the number of patients subsequently diagnosed with CS or cortisol dysregulation

METHODS

- A retrospective review of all patients referred to the tier 3 weight management service at Musgrove Park Hospital in 2013 to 2016.
- Patients were excluded if they met our exclusion criteria (Table 1).
- Data on patients' weight, BMI, diabetic status, ODST/UFC results were obtained from clinic letters.
- A positive CS screening result was defined as either: a 9am cortisol >50nmol/L, or 2 x UFC > upper limit of normal.
- Statistical analysis was conducted following data collection.

EXCLUSION CRITERIA
Previous bariatric surgery
No clinic letter
Incomplete clinical profile in letters
Non-weight management patient

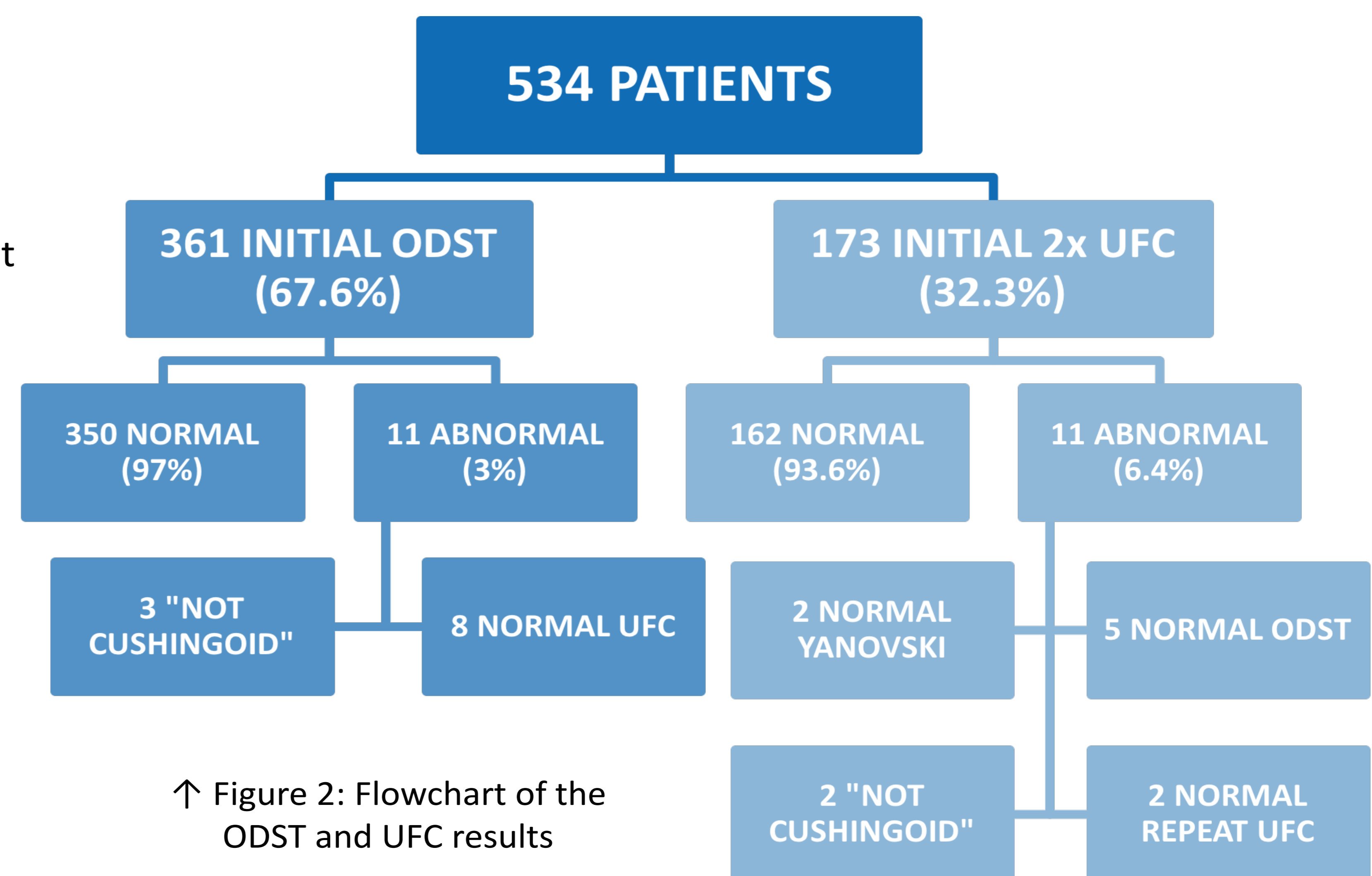
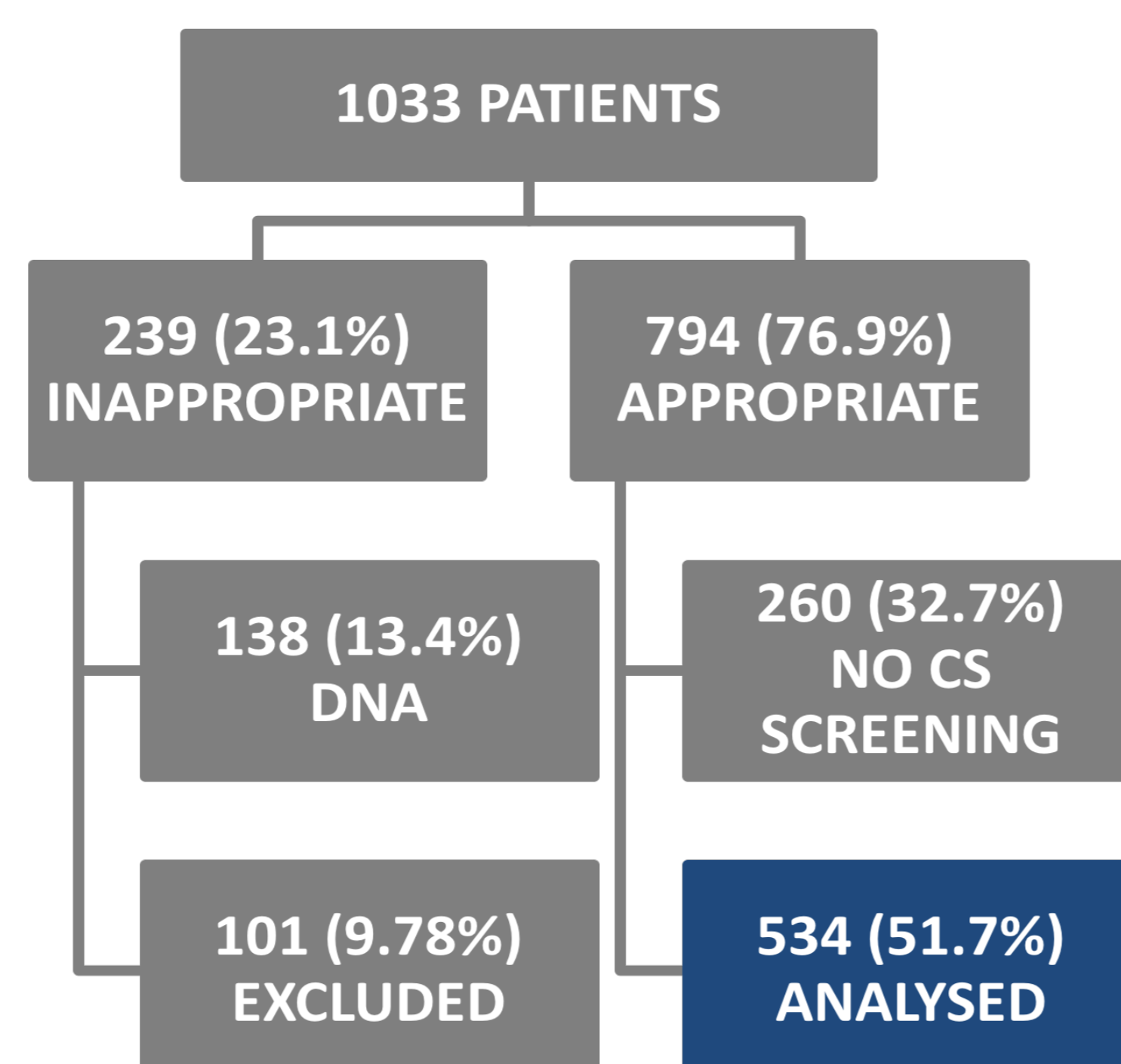
Table 1: Exclusion criteria

RESULTS

- 1033 patients were referred to weight management services.
- 534 (51.7%) were included in data analysis (Figure 1).
- No patients were diagnosed with CS in this cohort.
- All patients with abnormal ODST/UFC results either had normal repeat results or were not clinically deemed to have cortisol excess (Figure 2).

PATIENT CHARACTERISTIC	NUMBER (%/SD)
Male	149 (27.9%)
Female	385 (72.1%)
Mean age (years)	46 (±12.4)
Mean BMI (kg/m ²)	46.6 (±7.8)
Mean weight (kg)	132.4 (±26.7)
Dysglycaemia	176 (32.3%)

Table 2: Patient characteristics



↑ Figure 2: Flowchart of the ODST and UFC results

← Figure 1: Flowchart of all patients referred to our services

DISCUSSION

- This study contains the largest reported data set addressing CS screening in the context of weight management services.
- Our results are in keeping with a prospective study of 369 patients screened for CS in a weight management program in the United States.^[1]
- Our data suggests that routine screening for CS is not warranted in all patients referred for weight management support.
- Biochemical suggestion of cortisol dysregulation was discounted in 5 patients by clinical correlation. These abnormal results were felt to be related to other factors such as poor glycaemic control.
- The mean BMI of patients in the European Cushing's Registry is 28±9 kg/m² which is much less than our cohort (46.6 ±7.8 kg/m²).^[2] If CS was the cause for obesity in our cohort, then it might be expected that other features of CS would have been clinically apparent.
- Patients with clinical evidence of CS should still undergo appropriate investigations.

REFERENCES

1. Tabarin A. & Perez, P. Pros and cons of screening for occult Cushing syndrome. *Nat. Rev. Endocrinol.* (2011) 7:445-455 <https://doi.org/10.1038/nrendo.2011.51>
2. ERCUSYN Study Group. The European Registry on Cushing's syndrome: 2-year experience. Baseline demographic and clinical characteristics. (2001) 165(3):383-392 <https://doi.org/10.1530/EJE-11-0272>.