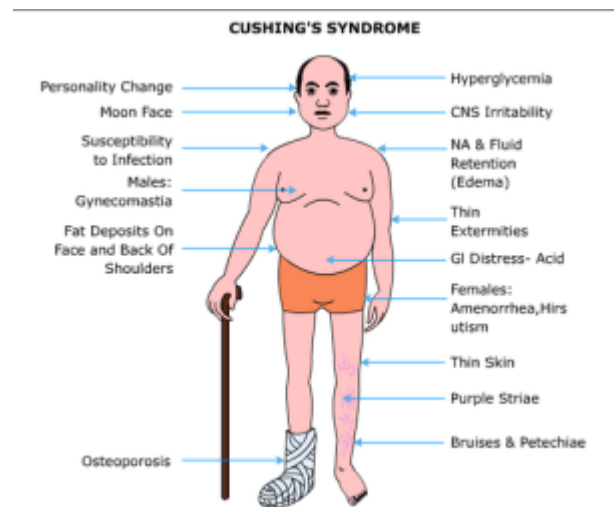


Cushing's syndrome etiology



Pituitary corticotroph adenoma: ([Cushing's disease](#)) is just one cause of [Cushing's syndrome](#) (CS).

[Ectopic adrenocorticotrophic hormone secretion](#) (EAS).

[Adrenocortical adenoma](#) (ACA).

Hypothalamic or ectopic secretion of corticotropin-releasing hormone ([CRH](#)) producing hyperplasia of pituitary corticotrophs; pseudo- Cushing's state.

Cushingoid features with prolonged usage (iatrogenic Cushing's syndrome): obesity, hypertension, hirsutism...

Zhou et al. evaluated the [sensitivity](#), [specificity](#), [positive predictive value](#) (PPV) and [negative predictive value](#) (NPV) of [Cushing's syndrome](#) (CS) etiology-related [ICD-10](#) codes or code combinations by comparing hospital [discharge administrative database](#) (DAD) with established diagnoses from [medical records](#).

Coding for patients with [adrenocortical adenoma](#) (ACA) and those with [bilateral macronodular adrenal hyperplasia](#) (BMAH) demonstrated disappointingly low sensitivity at 78.8% (95% CI: 70.1% - 85.6%) and 83.9% (95% CI: 65.5% - 93.9%), respectively. BMAH had the lowest PPV of 74.3% (95% CI: 56.4% - 86.9%). In confirmed ACA patients, the sensitivity for ACA code combinations was higher in patients initially admitted to the Department of Endocrinology before surgery than that in patients directly admitted to the Department of Urology (90.0% vs 73.1%, $P = 0.033$). The same phenomenon was observed in the PPV for the BMAH code (100.0% vs 60.9%, $P = 0.012$). Misinterpreted or confusing situations caused by coders (68.1%) and by the omission or denormalized documentation of symptomatic diagnosis by clinicians (26.1%) accounted for the main source of coding errors.

Hospital [administrative database](#) is an effective data source for evaluating the etiology of [Cushing's syndrome](#) (CS) but not [adrenocortical adenoma](#) (ACA) and [bilateral macronodular adrenal hyperplasia](#) (BMAH). Improving surgeons' [documentation](#), especially in the delineation of symptomatic and locative diagnoses in discharge abstracts; department- or disease-specific training for coders; and more [multidisciplinary collaboration](#) are ways to enhance the applicability of administrative data for

CS etiologies ¹⁾.

References

¹⁾

Zhou J, Zhang M, Lu L, Guo X, Gao L, Yan W, Pang H, Wang Y, Xing B. Validity of discharge ICD-10 codes in detecting the etiologies of endogenous Cushing's syndrome. *Endocr Connect*. 2019 Jul 1. pii: EC-19-0312.R2. doi: 10.1530/EC-19-0312. [Epub ahead of print] PubMed PMID: 31340196.

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