# Prevalence of Endogenous Hypercortisolism in Individuals With Resistant Hypertension Stratified by Kidney Function: Results From the MOMENTUM Study

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# Speaker Disclosures

| | |
|---|---|
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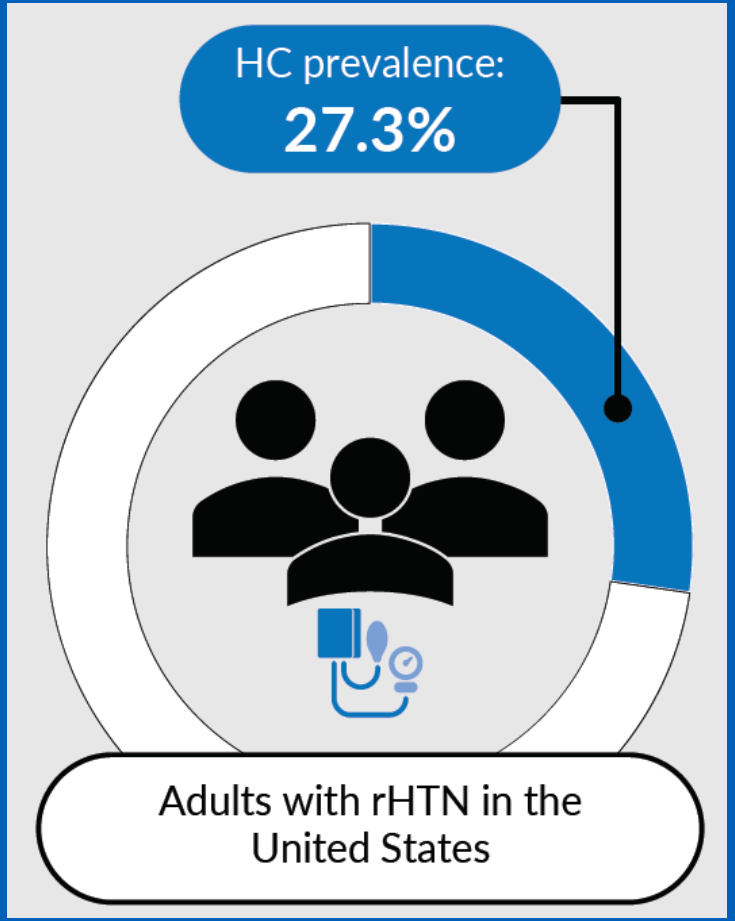
# MOMENTUM Primary Result

- The first US-based trial to assess hypercortisolism prevalence in individuals with resistant hypertension (rHTN)
- Screening test used: 1-mg overnight DST with post-DST morning cortisol >1.8 mg/dL




DST, dexamethasone suppression test; HC, hypercortisolism; rHTN, resistant hypertension.

# CKD & HC in People with rHTN

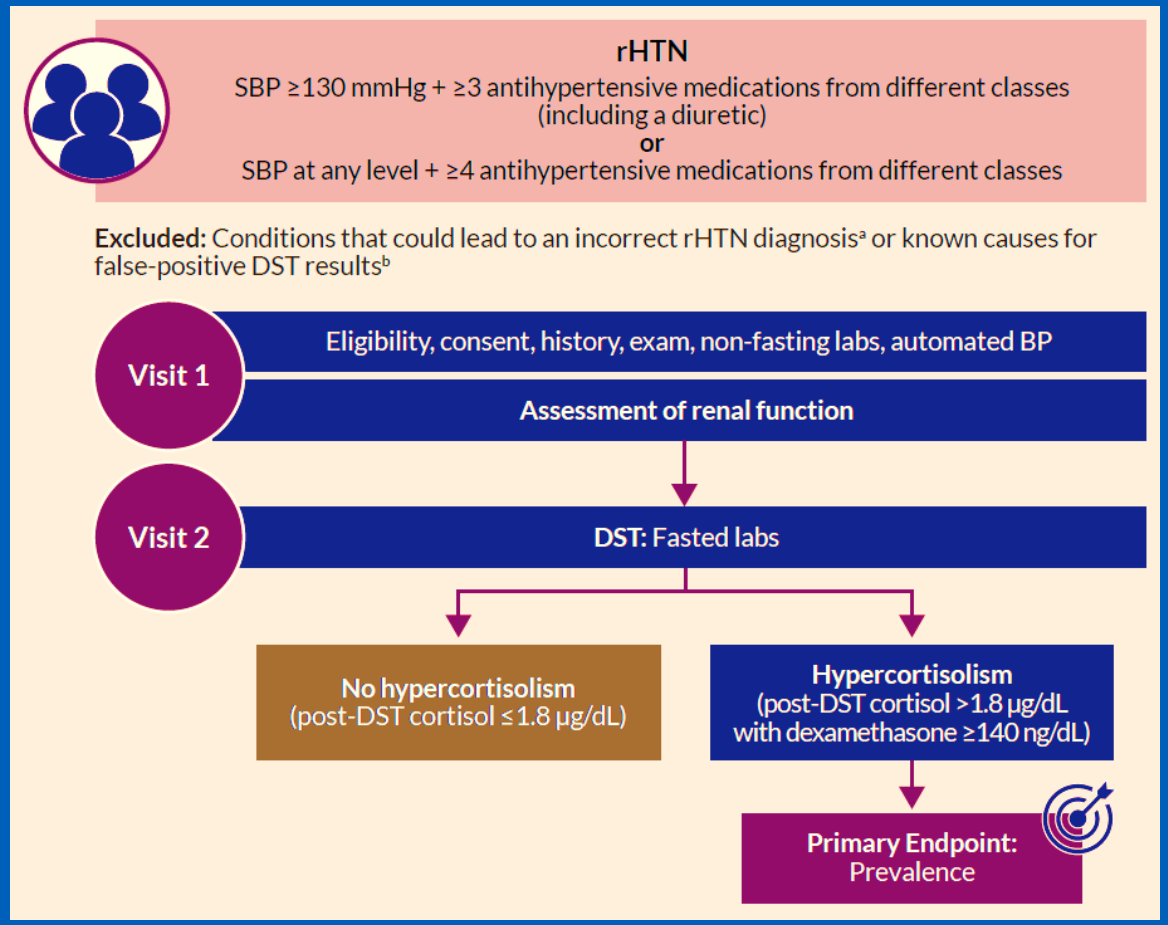
- Uremia is an insulin-resistant state, and hypercortisolism also causes insulin resistance[1,2]
  - However, the relationship between CKD and hypercortisolism in rHTN is not well characterized
  - Many adverse effects associated with the uremic state (eg, insulin resistance, cardiometabolic complications, bone disease) are also characteristic of hypercortisolism, suggesting a potential pathophysiologic connection
- If eGFR is reduced, there is a prolongation of cortisol half-life[3] and potential for cross-reactivity of cortisol metabolites in the DST immunoassay

► **We analyzed the frequency of post-DST cortisol >1.8 µg/dL and characteristics of participants in MOMENTUM by eGFR**

CKD, chronic kidney disease; DST, dexamethasone suppression test; eGFR, estimated glomerular filtration rate; HC, hypercortisolism; rHTN, resistant hypertension.
[1]DeFronzo et al. *J Clin Invest.* 1978. [2]DeFronzo & Auchus *Diabetes*. 2025. [3]Garg et al. *J Endocr Soc.* 2024.

# Methods: The MOMENTUM Trial (N=1,086)

- A US-based, multicenter, prospective, observational study
- Screened adults with rHTN per AHA criteria using the 1-mg overnight DST
- Causes of false-positive DSTs were excluded
- Cortisol measured by electro-chemiluminescence immunoassay
  - The assay used to measure cortisol was not tested for the potential effect of low eGFR




AHA, American Heart Association; BP, blood pressure; DST, dexamethasone suppression test; eGFR, estimated glomerular filtration rate; rHTN, resistant hypertension; SBP, systolic blood pressure.

# Baseline Demographics & Characteristics Across eGFR Groups

| | eGFR <45 mL/min/1.73 m² (n=140)[a] | eGFR 45–59 mL/min/1.73 m² (n=203) | eGFR ≥60 mL/min/1.73 m² (n=743) |
|---|---|---|---|
| Age, years | 69.5 | 69.9 | 63.3 |
| Female, (%) | 44.3 | 55.7 | 51.1 |
| Race, (%) | | | |
| Asian | 1.4 | 5.4 | 3.0 |
| Black or African American | 30.0 | 31.0 | 39.2 |
| White | 66.4 | 62.1 | 54.0 |
| Other[b] | 2.1 | 1.5 | 3.9 |
| Ethnicity not Hispanic/Latino, (%) | 75.0 | 81.8 | 70.5 |
| Weight, kg | 92.2 | 93.2 | 95.1 |
| BMI, kg/m$^2$ | 31.8 | 33.3 | 33.3 |
| Waist circumference, cm | 109.9 | 108.3 | 108.5 |
| SBP, mmHg | 137.4 | 137.8 | 141.9 |
| DBP, mmHg | 79.9 | 79.9 | 86.1 |

BMI, body mass index; DBP, diastolic blood pressure; eGFR, estimated glomerular filtration rate; SBP, systolic blood pressure; SD, standard deviation.

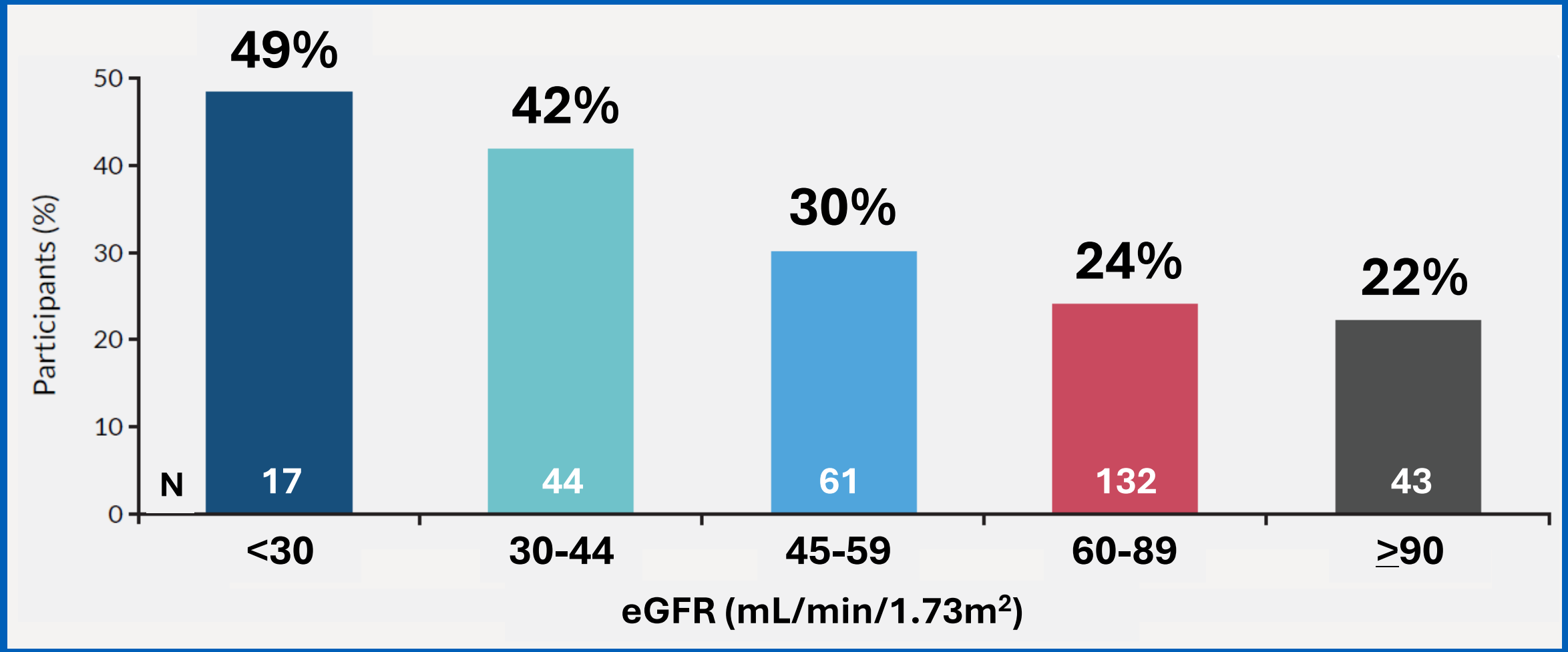
# Post-DST Cortisol & ACTH Across eGFR Groups

- ACTH was similar across eGFR groups (overall and in those with hypercortisolism)
- Post-DST cortisol was higher in those with lower eGFR; mean values were higher in MOMENTUM vs Garg[1]

| | eGFR <45 mL/min/1.73 m² (n=140) | eGFR 45–59 mL/min/1.73 m² (n=203) | eGFR ≥60 mL/min/1.73 m² (n=743) |
|---|---|---|---|
| Post-DST cortisol, mg/dL, mean | | | |
| Overall | 2.4 | 2.1 | 1.9 |
| Hypercortisolism | 3.9 (44%) | 4.1 (30%) | 4.4 (24%) |
| Post-DST ACTH, ng/L, mean | | | |
| Overall | 5.3 | 4.9 | 4.9 |
| Hypercortisolism | 7.3 | 7.5 | 8.5 |
| 8 AM ACTH in participants with HC, ng/L | 23.3 | 18.8 | 21.9 |

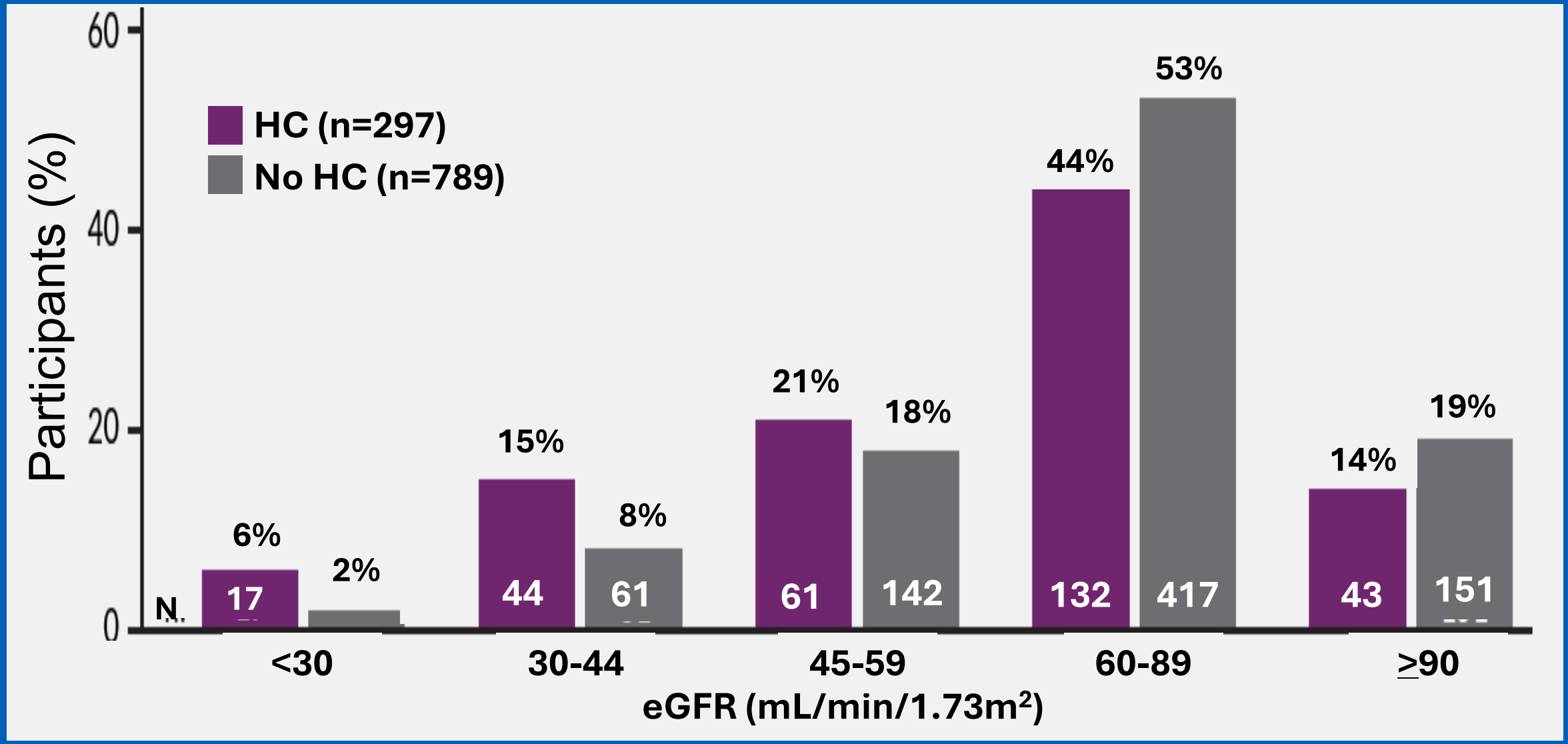
ACTH, adrenocorticotropic hormone; DST, dexamethasone suppression test; eGFR, estimated glomerular filtration rate; HC, hypercortisolism; rHTN, resistant hypertension; SD, standard deviation. [1]Garg et al. *J Endocr Soc.* 2024.

# Relationship between Percentage of Participants With Post-DST Cortisol >1.8 µg/dL and eGFR



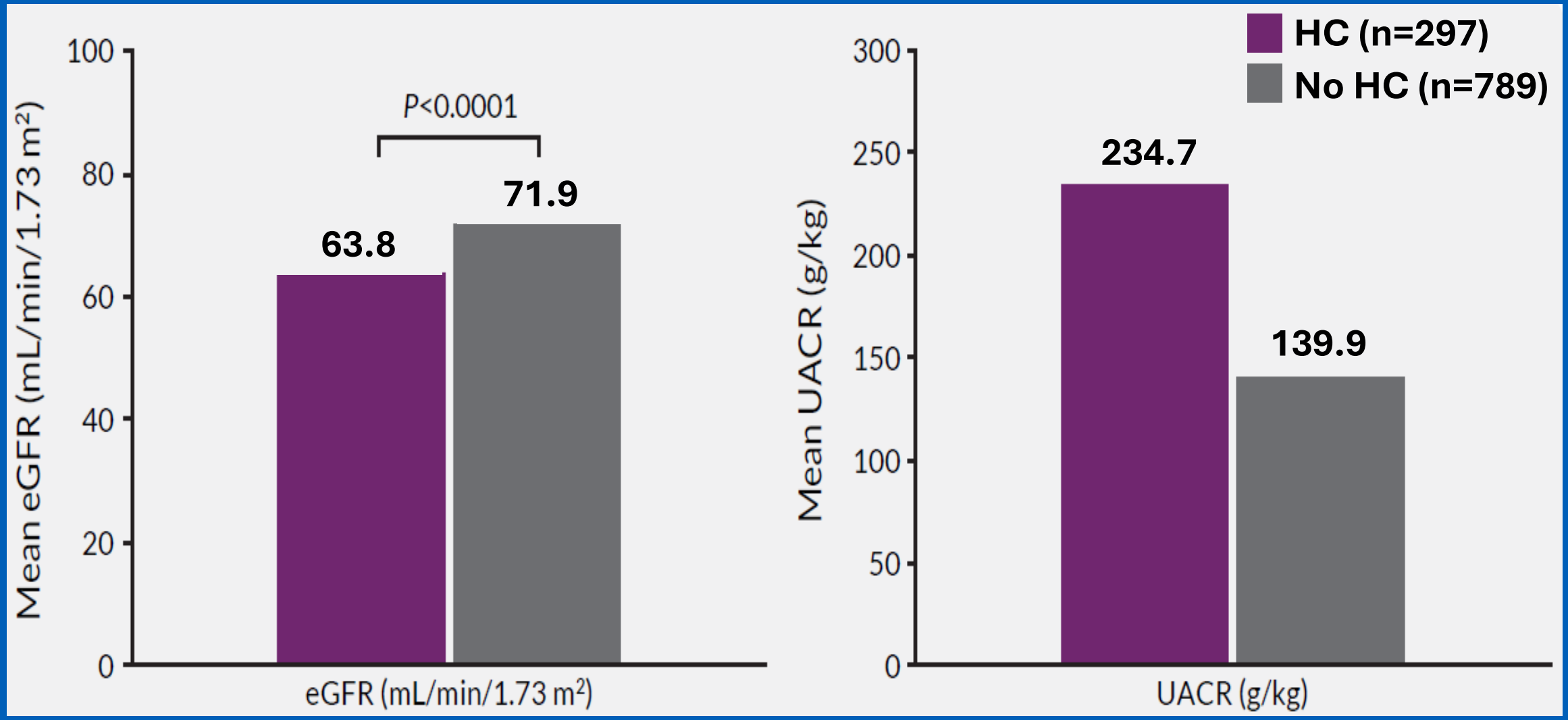

DST, dexamethasone suppression test; eGFR, estimated glomerular filtration rate.

# Percent of Participants With and Without Hypercortisolism by eGFR Status



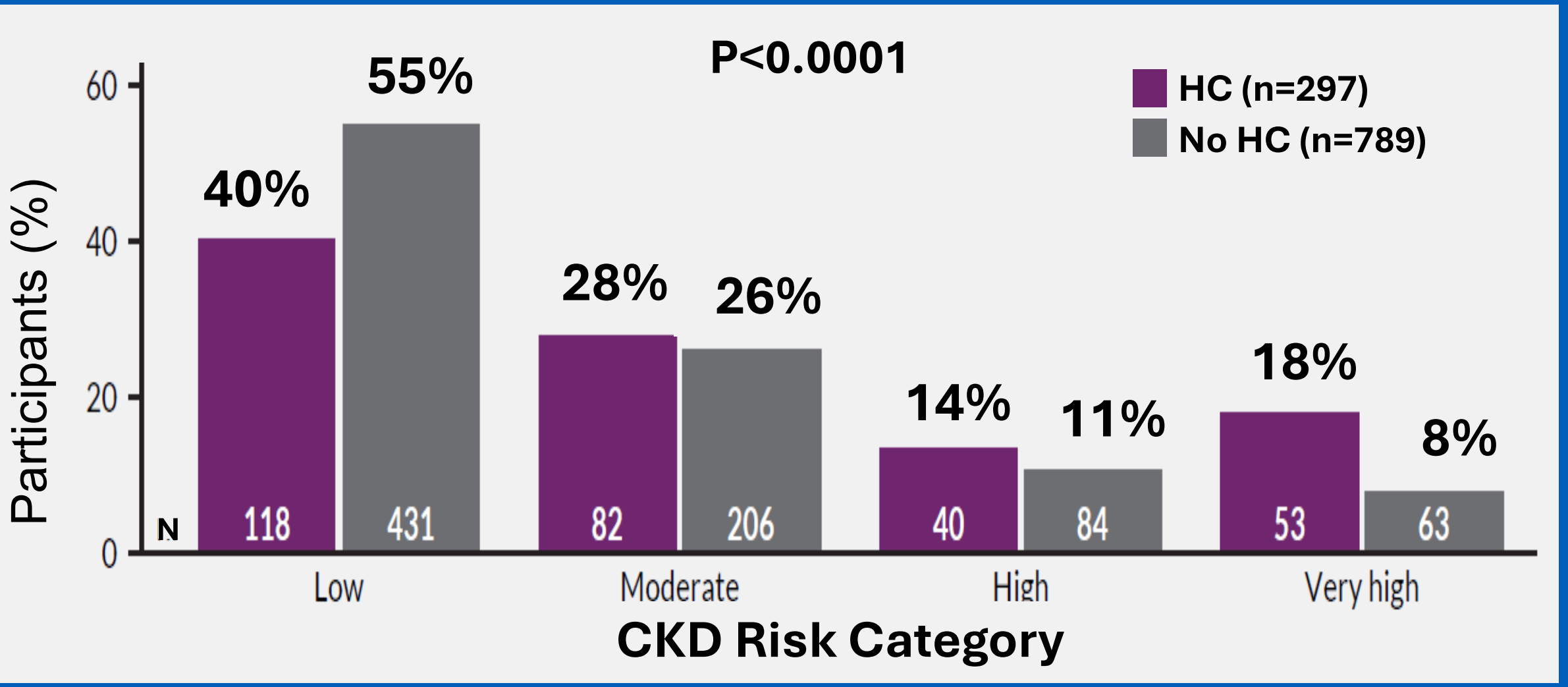

DST, dexamethasone suppression test; eGFR, estimated glomerular filtration rate; HC, hypercortisolism.

# Markers of Kidney Function (eGFR and UACR) in Participants with and Without Hypercortisolism




eGFR, estimated glomerular filtration rate; HC, hypercortisolism; UACR, urine albumin-to-creatinine ratio.

# Percentage of Participants With and Without Hypercortisolism by CKD Progression Risk Category




CKD, chronic kidney disease; HC, hypercortisolism.

# Summary & Conclusions

- In the overall MOMENTUM population, **hypercortisolism prevalence was 27.3%**
- Hypercortisolism prevalence increased with lower eGFR
- MOMENTUM could not determine whether this association reflects a true disruption in the HPA axis or a prolongation in the clearance of cortisol
- ACTH was similar and in the low normal range across eGFR groups, making a disturbance in the hypothalamic-pituitary axis an unlikely cause of the hypercortisolism
- UACR trended higher in people with hypercortisolism, as did CKD progression risk

► **These results support the need for targeted hypercortisolism screening in people with rHTN**

ACTH, adrenocorticotropic hormone; CKD, chronic kidney disease; DST, dexamethasone suppression test; eGFR, estimated glomerular filtration rate; HPA, hypothalamus-pituitary-adrenal; rHTN, resistant hypertension; UACR, urine albumin-to-creatinine ratio.