



Association of Hidradenitis Suppurativa Flares and the Menstrual Cycle: A Prospective Cohort Study

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Link expiration: 01 June 2024

Disclosures & Acknowledgements

Disclosures

VH, JR, KY, LZ: None

HAT, TT, IP, MNN: Employees and shareholders of UCB Pharma

MAA: Consulting fees from AbbVie and Santa Ana Bio; advisory board for Novartis; research funding from UCB Pharma

KYS: Research funding from UCB Pharma

Acknowledgements

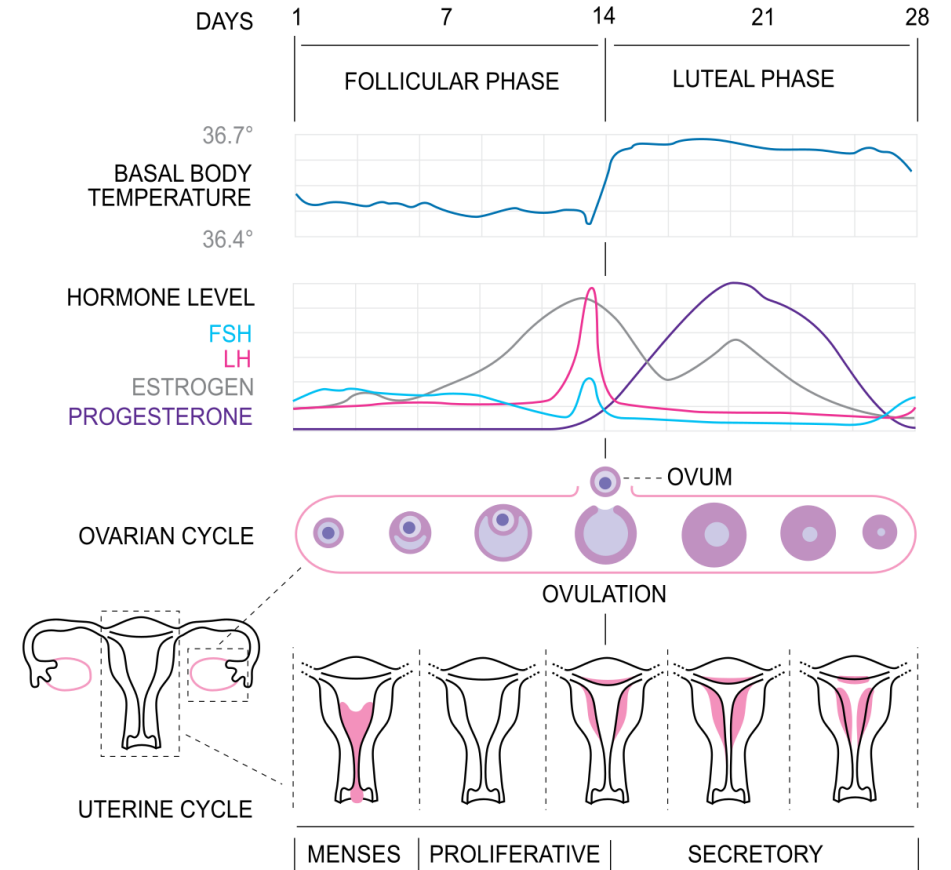
This study was funded by UCB Pharma. The authors acknowledge Susanne Wiegratz, MSc, UCB Pharma, Monheim am Rhein, Germany for publication coordination, Jonathan Loh, BSc, Costello Medical, Singapore for medical writing and editorial assistance, and the Costello Medical Creative team for design support. Shufeng Li, Stanford University School of Medicine, California, USA, contributed to this publication through high level statistical guidance. All costs associated with the development of this poster were funded by UCB Pharma.

Background

Evidence that menstrual cycles influence HS disease severity includes:

- Clinical benefit in HS patients treated with anti-androgen therapies^{1,2}
- Single point, cross-sectional surveys
- **40–77%** of participants indicate an **association between their HS symptoms and menstrual cycle**³⁻⁷

However, there is a **paucity of longitudinal studies** examining HS symptoms prior, during and after menses over several cycles



OBJECTIVE: Investigate whether **HS symptoms fluctuate longitudinally** with the **menstrual cycle**, as perceived by patients

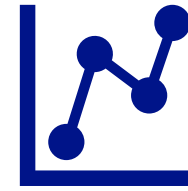
Methods



Enrolled
pre-menopausal
participants*



Received
weekly/biweekly
surveys for 8–16 weeks



Data Analysis:
Flare Symptoms
Menstrual Symptoms



Are you **currently experiencing** a flare?

How many **active lesions** did you have over the last seven days?

How would you rate your **overall symptom severity/worst severity/average pain** over the last seven days?
(VAS, overall severity: 0–10; worst severity: 0–100; average pain: 0–10)

Did your **lesions/overall symptoms decrease, increase, or remain unchanged** over the last seven days?

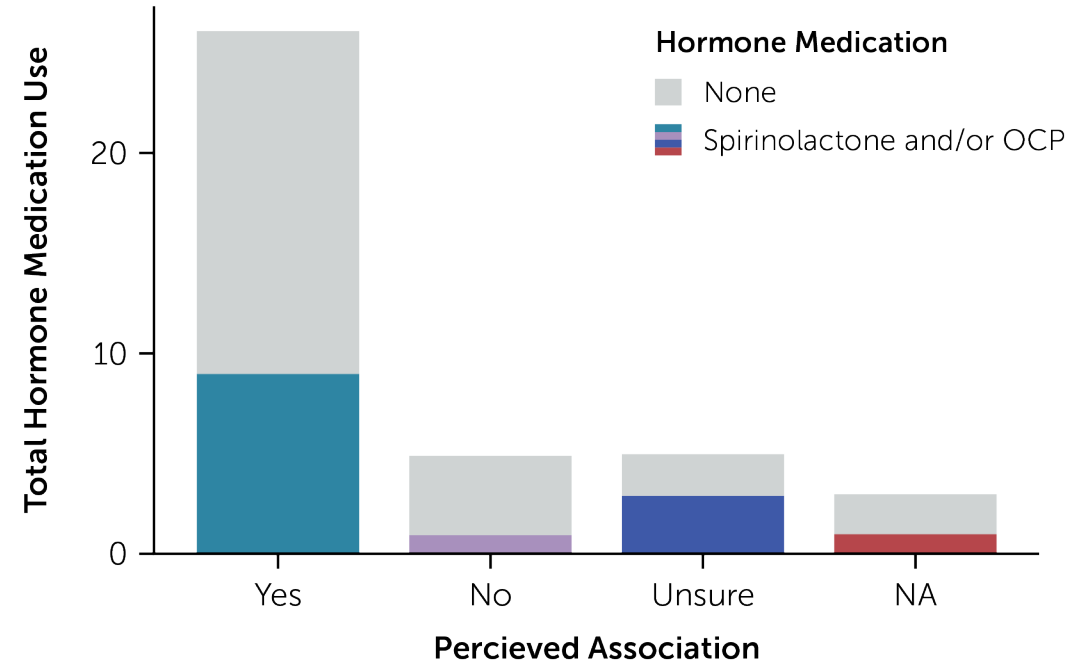
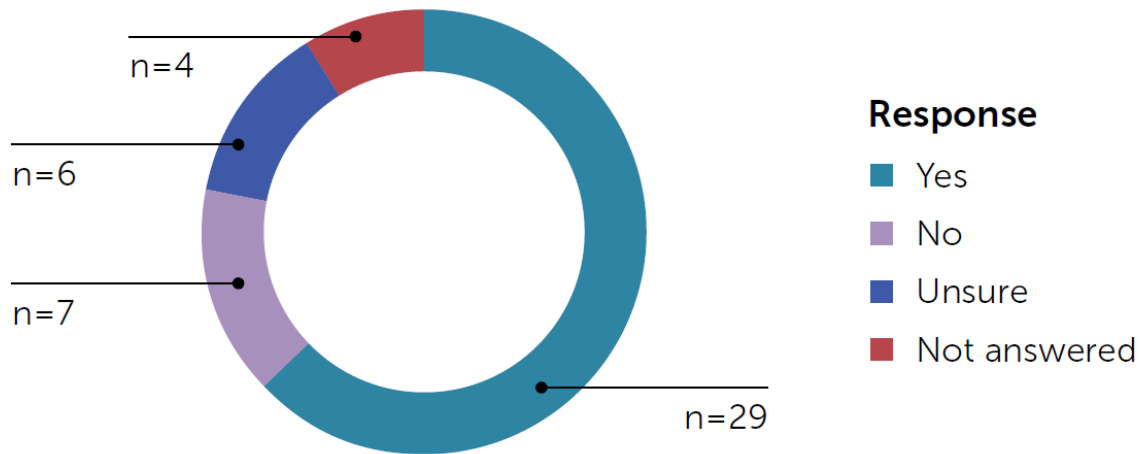
During the last seven days, have you had your **menstrual period**? If yes, how severe was your **menstrual pain**?

Analyses of flare and menstrual symptoms survey data included:
one sample Wilcoxon tests, GLM and CLM estimates

*A subset of patients were treated with hormonal medication during the study and recall period. CLM: conditional linear model; GLM: generalized linear model; VAS: visual analogue scale.

Significant Menstrual Association

Patients' responses to question: Does your menstrual cycle associate with your HS symptoms?



Corresponding to literature, **63.0% of participants** who answered the baseline survey (n=46) **perceived an association** between their cycle and HS symptoms

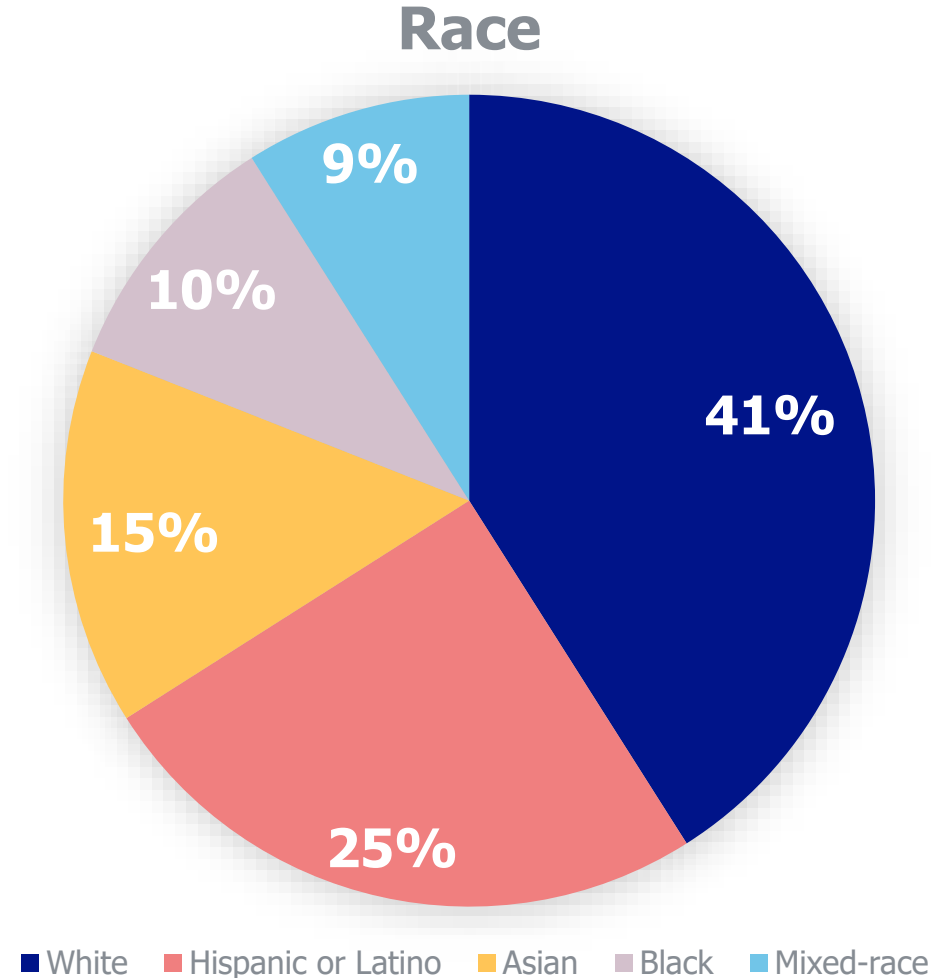
The data set reported here (n=46) includes 7 patients whose menstrual cycle data was not recorded, as such they were excluded from further analysis beyond this survey question. Of the 39 patients included in further analysis, 14 patients were treated with hormone medication (Spironolactone and/or OCP). HS: hidradenitis suppurativa; NA: not applicable; OCP: oral contraceptive pill.

Baseline Demographics

Of 46 survey responders, **there were 39 menstruating** participants with recorded menstrual cycle data.

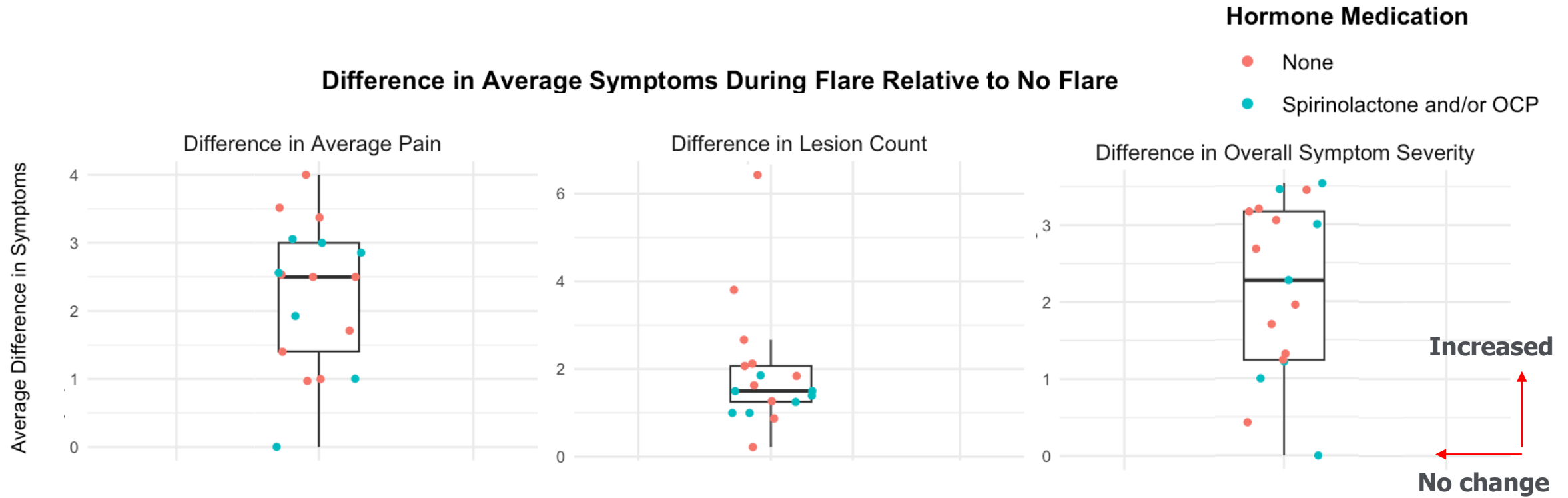
These 39 participants contributed to a total of **93 menstrual** cycles analysed.

- **Mean age:** 32.8 years \pm 7.5 years
- **Hurley Stage:**
 - 21% Stage I
 - 5% Stage I–II
 - 46% Stage II
 - 3% Stage II–III
 - 18% Stage III
 - 8% Unknown



The Hurley staging system categorizes patients into 3 groups based largely on the presence and extent of lesions, scarring, and sinus tracts. Rounding of patient %s may mean some values do not sum to 100%.

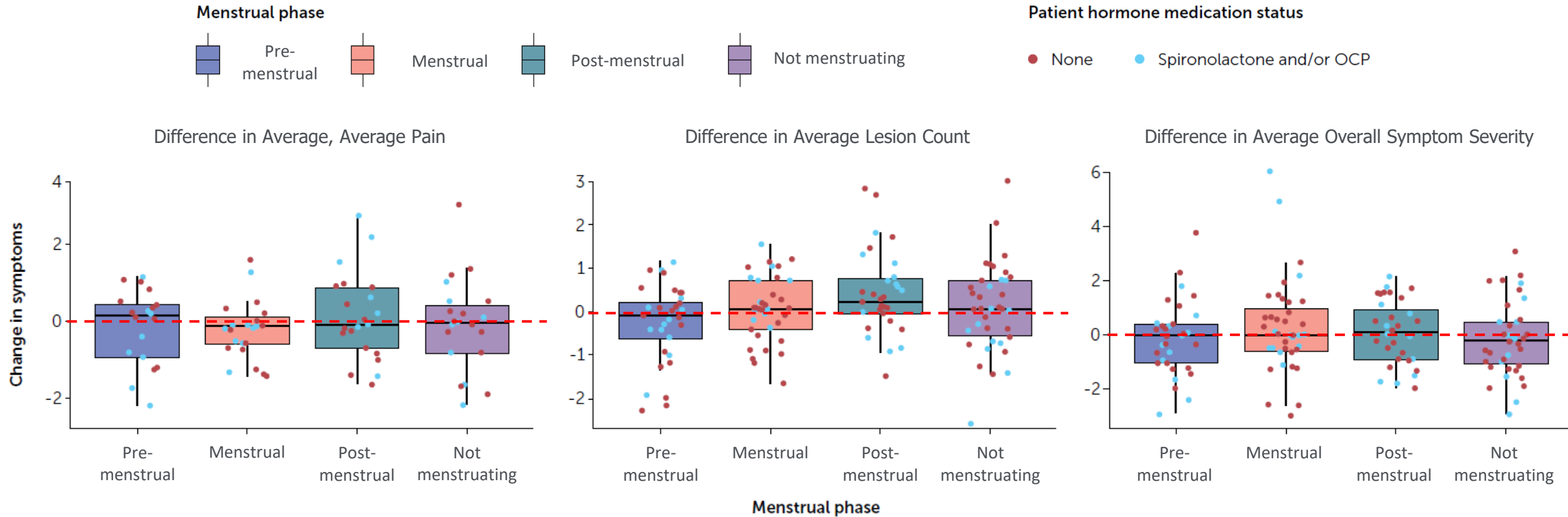
Results: Participants Can Adequately Report Flare



All aspects of HS disease severity (Average Pain, Lesion Count and Overall Symptom Severity) were **significantly increased during self-reported flare** per one sample Wilcoxon ($p < 0.001$)

All scores on y-axes are measured on VAS scale. Box and whisker plots report the maximum (top of line), minimum (bottom of line), median (middle horizontal) and interquartile range (box). HS: hidradenitis suppurativa; OCP: oral contraceptive pill; VAS: visual analogue scale.

Results: No Change in HS Perimenstrual Symptoms

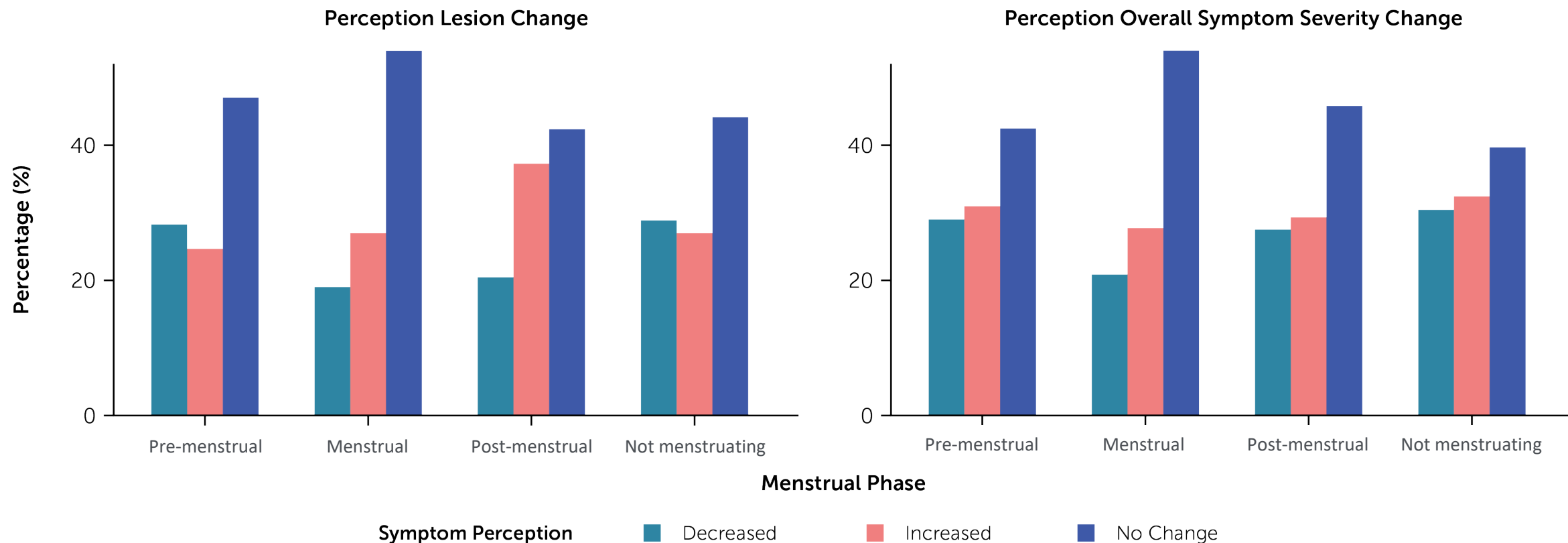


No aspects of HS disease severity were **significantly increased in perimenstrual weeks** per one sample Wilcoxon ($p > 0.05$) in the full cohort and stratifications for association and hormone medication

HS: hidradenitis suppurativa; OCP: oral contraceptive pill.

Results: No Change in HS Perimenstrual Symptoms

Full Cohort: Perception of Symptom Changes Relative to Prior Week



Most participants **perceived no or decreased change** in lesions and overall symptoms **during perimenstrual weeks** in the full and association cohorts

Results: Hormone Medication Reduces Lesions

Lesions by Phase and Hormone Medication	Estimate	p-value
Intercept (not menstruating, no hormone medication)	0.74	0.00033**
Pre-perimenstrual phase	-0.14	0.26
Menstrual phase	-0.010	0.34
Post-perimenstrual phase	0.035	0.76
Hormone medication (spironolactone and/or OCP)	-0.84	0.022*
Pre-perimenstrual phase	0.24	0.28
Menstrual phase	0.34	0.095
Post-perimenstrual phase	0.30	0.18

- The GLM indicates **a significant reduction of lesions in patients on hormone medication** (p=0.022)
- GLM and CLM (not pictured) found **no impact** of menstrual phase, association of menses/HS or their interaction on lesion number or overall HS symptoms

Conclusions

- Patients can adequately report flares
- **Most participants** surveyed in this study **associate their menstrual cycle with increased HS symptoms**
- Our **longitudinal** data, however, **did not find an association of HS disease severity with the menstrual cycle** stratifying by association and hormone medication status
- **Hormone medication** does, however, significantly **reduce the total number of HS lesions** regardless of menstrual status compared to patients not on hormone medications
- **Participants who reported an association** between menses and HS in our cohort **experienced flares more frequently** than patients who did not

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