Our findings highlight associations of VLS with elevated body mass index, cholecystectomy, and statin usage. Increased adipose tissue is a well-studied orchestrator of inflammation and fibrosis.[2,3] Similarly, cholecystectomy may have downstream metabolic consequences, including disruption of glucose homeostasis, cholesterol efflux, and energy expenditure.[4] The metabolic role of statins may be complex, as statins have been associated with glucose dysregulation.[5] Increased statin usage among VLS patients suggests the presence of underlying dyslipidemia and metabolic dysregulation.

Underlying metabolic dysregulation in the setting of VLS may also be related to chronic inflammation. Chronic inflammatory skin conditions, including lichen planus and psoriasis, are linked to higher risks for metabolic disease due to key roles of inflammation in dyslipidemia.[2,3] Chronic inflammation and iatrogenic events, including cholecystectomy and medications affecting the insulin axis, may underly metabolic dysregulation in VLS patients.

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None disclosed.

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## Trajectories and prognosis after discontinuation of biologics due to remission in psoriasis: A nationwide cohort study

*To the Editor:* Patients with and dermatologists treating psoriasis usually strive for complete skin clearance, yet some patients prefer being off treatment. However, the prognosis after treatment discontinuation following remission is not well characterized. We investigated epidemiological characteristics and disease markers during the first 2 years following cessation of biologics due to remission.

DERMBIO contains detailed information on all Danish psoriasis patients treated with biologics including cause of discontinuation.[1] Data on comorbidity and concurrent treatment (eg, topical therapy) were obtained through individual-level linkage across nationwide registries.[2,3]Adults treated with biologics between January 1, 2007, and December 31, 2016, were included and followed for 24 months. In DERMBIO, physicians state the reason for discontinuation through predefined options (eg, "Lack of efficacy", "Side effects", or "Remission"). The choice of "remission" is made by the dermatologist and may thus be chosen even with residual plaques. We defined remission as discontinuation with "remission" stated as reason and a Psoriasis Area and Severity Index (PASI) <3 at time of cessation.

Characteristics were reported as frequencies and percentages or medians and interquartile ranges (IQRs). The proportions of patients to restart biologics or initiate nonbiologic systemics (including phototherapy) were reported and visualized with 95% confidence intervals. Kaplan–Meier curves

**Table I.** Patient characteristics

| | Discontinued due to remission | Discontinued due to remission (PASI = 0) | Discontinued due to remission (PASI >0) | Not discontinued due to remission |
|---|---|---|---|---|
| Treatment series, *n* | 40 | 24 | 16 | 3804 |
| Men, *n* (%) | 21 (53) | 12 (50) | 9 (56) | 2305 (61) |
| Treatment duration in d, median (IQR) | 681 (336-1419) | 681 (336-1419) | 646 (345-1500) | 812 (259, 1791) |
| Age at diagnosis, median (IQR), y | 29.0 (15.0-44.0) | 32.5 (18.5-44.0) | 17.0 (13.0-43.0) | 21.0 (14.0, 34.0) |
| Age at prescription, median (IQR), y | 43.0 (30.8-58.3) | 48.5 (38.0-62.3) | 34.0 (23.8-46.5) | 46.0 (36.0-56.0) |
| Number of previous biologics, median (IQR) | 0.0 (0.0-1.0) | 0.0 (0.0-1.0) | 0.0 (0.0-1.0) | 0.0 (0.0-1.0) |
| Baseline PASI, median (IQR) | 5.3 (2.0-14.3) | 4.3 (1.8-10.0) | 10.0 (3.0-15.0) | 8.6 (3.7-13.4) |
| Baseline DLQI, median (IQR) | 10.0 (2.0-14.0) | 5.0 (0.0-10.5) | 14.0 (5.0-18.0) | 10.0 (400-16.0) |
| Last PASI, median (IQR) | 0.0 (0.0-1.2) | 0.0 (0.0-0.0) | 1.5 (0.90-2.0) | 2.0 (0.0-6.6) |
| Last DLQI, median (IQR) | 0.0 (0.0-2.5) | 0.0 (0.0-0.0) | 1.0 (0.0-4.0) | 2.0 (0.0-7.0) |
| Weight [kg], median (IQR) | 80.0 (70.5-87.8) | 75.0 (67.5-79.0) | 86.0 (80.0-102.0) | 90.0 (75.0-103.0) |
| BMI [kg/m$^2$], median (IQR) | 25.8 (25.0-31.6) | 25.7 (25.0-30.3) | 26.9 (25.1-35.9) | 28.2 (24.6-33.2) |
| PsA, *n* (%) | 7 (18) | ≤6 (≤25) | <3 (<13) | 1002 (26) |
| Diabetes, *n* (%) | 5 (13) | ≤5 (≤21) | <3 (<13) | 225 (6) |
| 0 previously failed biologic treatments, *n* (%) | 24 (60) | 14 (58) | 10 (63) | 2011 (53) |
| 1 previously failed biologic treatment, *n* (%) | 9 (23) | 6 (25) | 3 (19) | 957 (25) |
| 2+ previously failed biologic treatments, *n* (%) | 7 (18) | 4 (17) | 3 (19) | 836 (22) |
| Drug (cytokine target), *n* (%) | | | | |
| TNF-alpha inhibitor | 28 (70) | 18 (75) | 10 (63) | 2349 (62) |
| IL-12/23 inhibitor | 12 (30) | 6 (25) | 6 (38) | 1131 (30) |
| IL-17 inhibitor | 0 (0) | 0 (0) | 0 (0) | 251 (6.6) |
| Other | 0 (0) | 0 (0) | 0 (0) | 73 (1.9) |
| Time with PASI = 0 prior to discontinuation, *n* (%) | | | | |
| Only last visit | NA | 10 (42) | NA | NA |
| <6 mo | NA | 5 (21) | NA | NA |
| 6-12 mo | NA | 3 (13) | NA | NA |
| >12 mo | NA | 6 (25) | NA | NA |

*BMI*, Body mass index; *DLQI*, Dermatology Life Quality Index; *IL*, interleukin; *IQR*, interquartile range; *NA*, not applicable; *PASI*, Psoriasis Area and Severity Index; *PsA*, psoriatic arthritis; *TNF-alpha*, tumor necrosis factor alpha.

displayed time from remission to initiation of a new treatment (Supplementary Material, available via Mendeley at https://data.mendeley.com/datasets/9trkp6r3n4/1). We used SAS v9.4 (SAS Institute Inc) and Python 3.7.4.

In total, 40 (1%) of 3844 treatment series were discontinued due to remission and were compared to the rest of the 3804 (99%) treatment series. Upon treatment discontinuation, PASI = 0 was achieved in 24 (60.0%) treatment series. The median Dermatology Life Quality Index at remission was 0 for both overall and patients with PASI = 0, while it was 1 for patients with PASI >0. Most patients were men (53 %) and bio-naïve (60%). The median (IQR) age at diagnosis and prescription of treatment was 29.0 years (15.0, 44.0) and 43.0 years (30.8, 58.3), respectively. Seven (18%) patients were diagnosed with psoriatic arthritis and 5 (13%) patients had concomitant diabetes (Table I).

Two years after discontinuation, 17 (43%) remained in remission or initiated treatment with topical therapy only. Among the patients achieving PASI = 0 at discontinuation, 12 (50%) were in remission or managed their symptoms with topical therapy for a minimum of 2 years. Among patients achieving remission with PASI >0, 5 (31%) remained in remission or were treated with topical therapy after 2 years (Table II).

Patients were most likely to initiate topical treatment compared to systemics/biologics.

Of the 18 patients restarting biologics, 13 initiated the same drug as they had previously discontinued. The median (IQR) duration of treatment in the patients who reinitiated the same drug was 768 (265-1200) days, suggesting that patients who stop biologic treatment because of a remission have a low risk of loss of effect on reinitiating that treatment.

**Table II.** Proportion (95% CI) of patients that have restarted treatment (any treatment, topicals only, or systemic treatment including biologics) at different time points, after biologics were stopped due to remission

| | Any | Topicals | Systemics |
|---|---|---|---|
| Overall | | | |
| Within 6 mo | 65.0% (49.5%-77.9%) | 35.0% (22.1%-50.5%) | 30.0% (18.1%-45.4%) |
| Within 12 mo | 82.5% (68.1%-91.3%) | 32.5% (20.1%-48.0%) | 50.0% (35.2%-64.8%) |
| Within 18 mo | 85.0% (70.9%-92.9%) | 27.5% (16.1%-42.8%) | 57.5% (42.2%-71.5%) |
| Within 24 mo | 85.0% (70.9%-92.9%) | 27.5% (16.1%-42.8%) | 57.5% (42.2%-71.5%) |
| PASI = 0 at discontinuation | | | |
| Within 6 mo | 62.5% (42.7%-78.8%) | 37.5% (21.2%-57.3%) | 25.0% (12.0%-44.9%) |
| Within 12 mo | 79.2% (59.5%-90.8%) | 33.3% (18.0%-53.3%) | 45.8% (27.9%-64.9%) |
| Within 18 mo | 83.3% (64.1%-93.3%) | 33.3% (18.0%-53.3%) | 50.0% (31.4%-68.6%) |
| Within 24 mo | 83.3% (64.1%-93.3%) | 33.3% (18.0%-53.3%) | 50.0% (31.4%-68.6%) |
| PASI >0 at discontinuation | | | |
| Within 6 mo | 68.8% (44.4%-85.8%) | 31.3% (14.2%-55.6%) | 37.5% (18.5%-61.4%) |
| Within 12 mo | 87.5% (64.0%-96.5%) | 31.3% (14.2%-55.6%) | 56.3% (33.2%-76.9%) |
| Within 18 mo | 87.5% (64.0%-96.5%) | 18.8% (7.0%-43.0%) | 68.8% (44.4%-85.8%) |
| Within 24 mo | 87.5% (64.0%-96.5%) | 18.8% (7.0%-43.0%) | 68.8% (44.4%-85.8%) |

*PASI*, Psoriasis Area and Severity Index.

Only a small fraction of patients discontinued their treatment due to remission, which limits this study. More data and further investigations into this topic are relevant to fully illuminate and understand the prognosis after remission.

In conclusion, these results suggest the tantalizing possibility that some patients, especially those who achieved complete skin clearance, can discontinue their biologic treatment and still maintain long-term control of their disease.

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## Personal connections and preference signaling: A cross-sectional analysis of the dermatology residency match during COVID-19

*To the Editor:* The 2022 National Residency Match Program (NRMP) cycle was the first to allow dermatology applicants to formally connect with their highest-interest programs via preference signaling.[1] Connections with residency programs are linked to dermatology applicant match success;[2,3] yet limited data exist evaluating preference signaling and connections with residency programs during the virtual era of the COVID-19 pandemic. We assessed connections and preference signaling and compared characteristics of prepandemic (PPA, 2017-2020) and pandemic (PA, 2021-2022) applicants using a cross-sectional analysis of the Texas Seeking Transparency in Application to Residency database.

Texas Seeking Transparency in Application to Residency encompasses voluntary survey response data from 27,298 applicants from 136 U.S. medical schools (2017-2022). Self-reported personal connections between applicants and residency programs included away rotations (in-person/virtual), geographic ties, and preference signaling (2022 only). We compared personal connections and characteristics of dermatology PPA and PA using bivariate models. Associations of preference signaling to receiving interviews and matching were quantified using Stata (StataCorp; Version 17.0).

Between 360 PPA and 273 PA, 538 (85%) were matched and 95 (15%) were unmatched. Matched PA reported more honored clerkships, research experiences, peer-reviewed publications, abstracts, posters, presentations, and leadership experiences relative to matched PPA ($P_{all} < 0.05$, Table I). Of which, 84% PPA and 87% PA reported at least one personal connection with the program at which they matched. PA reported receiving more interviews from programs at which they had geographic connections to (30% vs 26%; $P = .001$). However, PPA received (8.82 vs 4.68) and attended (8.33 vs 5.50) more interviews overall ($P < .05$).

During the pandemic, 35.2% (96/273) of applicants reported completing virtual away rotations, and 8.33% (8/96) matched at program where they had virtually rotated. In 2022, 137 applicants reported sending a total of 424 preference signals. Among those who matched, 27 (11.5%) signaled