Psoriasis patients utilizing secukinumab, ixekizumab or brodalumab: Comparisons to prior biologic medication adherence levels, reasons for switching, and reported changes in disease symptoms.

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BACKGROUND

- Since approval of interleukin-17 (IL-17) inhibitors to treat psoriasis progression, an increasing number of patients have switched to these third-generation biologics (i.e. secukinumab, ixekizumab or brodalumab).[1] Little is known about the impact of the new therapy choices upon patient adherence, reasons for switching or patient reported impacts.

OBJECTIVE

- Describe pharmacy utilization for IL-17 inhibitors, and investigate differences from prior biologic treatments (i.e. adalimumab, ustekinumab or etanercept) on associated medication adherence levels, or patient reported reasons for switching and current disease symptoms after switching.

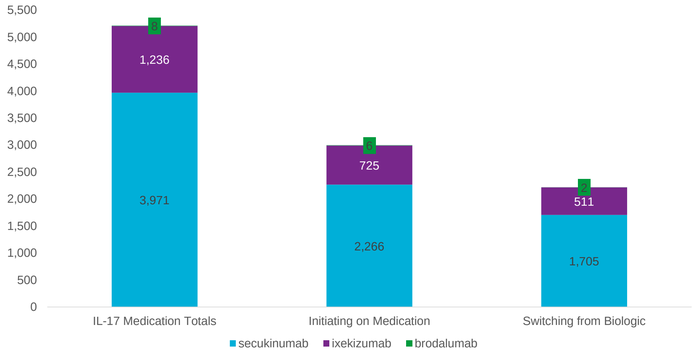
METHODS

- Pharmacy records from a national specialty pharmacy where examined retrospectively for patients starting an IL-17 inhibitor from January 2016 through December 2017, as well as their biologic treatment in the prior 12-months (i.e. adalimumab, ustekinumab or etanercept).
- In addition, patient reported information from the clinical management platform was included for those switching from a prior therapy. A 180 day follow-up period was used after starting the IL-17 inhibitor (till May 31, 2018).
- The medication adherence outcome was proportion of days covered (PDC) in the observation period (180 days). Prior PDC based on patients most recent prior biologic therapy, for up to 6-months within the previous year; and compared to their IL-17 inhibitors PDC value in a 6-month follow-up period.
- Excluded patients were under the age of 18 at start of the new IL-17 inhibitor, those residing in a U.S. territory, and those having a third-party payer with research exclusion contractual requirements. Patients switching between IL-17 inhibitors are included for index counts or PDC, but excluded on results regarding patient reported outcomes.

RESULTS

- The study sample of 5,215 consisted of 2,218 (42.5%) switching from a prior treatment. The most frequent IL-17 inhibitor dispensed was secukinumab (76.2%), followed by ixekizumab (23.7%), As noted in Figure 1. the counts of indexed brodalumab starters was small (n=8)

Figure 1. Patient Counts by Medication Pathways (Jan 2016 - Dec 2017).



RESULTS Continued

- As presented in Table 1., gender and age distributions were similar across the IL-17 inhibitors.

Table 1. Demographics by Initial IL-17 Medication

Gender	Age Group	Secukinumab (n=3,971)	Ixekizumab (n=1,236)	Brodalumab (n=8)	Row Percent
Male	18-30	120	49	0	3.2%
	31-45	569	220	2	15.2%
	46-65	1,032	362	4	26.8%
	65+	120	46	0	3.2%
Female	18-30	176	46	0	4.3%
	31-45	623	156	1	15.0%
	46-65	1,212	319	1	29.4%
	65+	119	38	0	3.0%

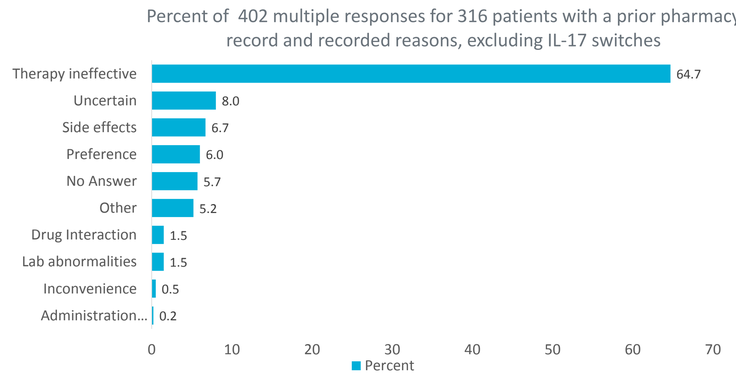
- Among those switching, the more common prior treatments were etanercept (37%) and adalimumab (35.8%) as obtained from either prior pharmacy records or patient reported when starting new medication (see Table 2).

Table 2. Previous medication prior to switching.

Previous Medication	Total Number of Patients Switching to IL-17 Medication		
	secukinumab (n=1,705)	ixekizumab (n=511)	brodalumab (n=2)
adalimumab	606 (35.5%)	186 (36.4%)	1 (50%)
ustekinumab	313 (18.4%)	111 (21.7%)	1 (50%)
etanercept	652 (38.2%)	169 (33.1%)	0
Other	134 (7.9%)	45 (8.8%)	0

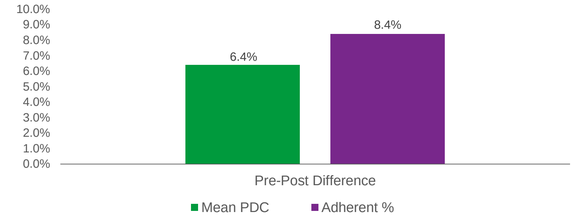
- The remaining 2,997 (57.5%) of the patients were prescribed an IL-17 inhibitor as their first biologic, with 75.6% starting on secukinumab. This trend became prominent starting in October 2017, accounting for over half of these patients.
- As indicated in Figure 2, the most common reason reported for switching was “ineffective treatment” (64.7%), followed by “uncertain” (8.0%), and the third most likely was “side effects” (6.7%).

Figure 2. Patient reported reasons for switching from prior medication to IL-17 medication.



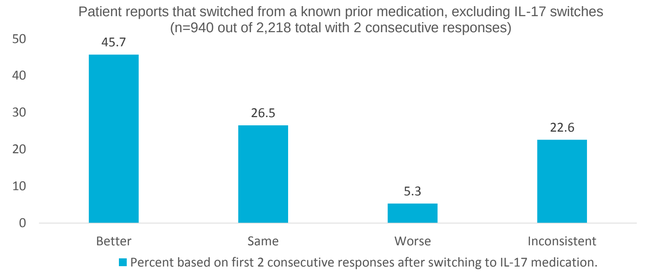
RESULTS Continued

Figure 3. Increase in 180 day adherence outcomes after switching to an IL-17 medication (compared to biologic medications prior to switch).



- Models of PDC Means and Proportion Adherent (PDC ≥80%): adjusted differences between prior and post mean PDC or percent adherent were investigated with repeated measures model that included covariates of gender (referenced to males), age (as continuous), census regions (referenced to southern region), and provider specialty (dermatology or rheumatology referenced to other).
- As reported in Figure 3. the adjusted mean increase was 6.4% (p <.01) for new IL-17 inhibitors compared to prior biologics, as well as an effect for rheumatologist providers (over a 6% increase compared to non-dermatology providers, both pre and post, p <.0001).
- The adjusted percent adherent significantly increased after switching for new IL-17 inhibitors compared to prior biologics (1.56 odds ratio, p <.003), as well there again being an effect for rheumatologist providers (1.47 odds ratio, p <.02).
- Patient Reported Outcomes (Figure 4): after switching to an IL-17 inhibitor and patients with two consecutive responses-- 45.7% of patients report symptoms as “better”, 26.5% the “same”, and only 5.3% state “worse” symptoms.

Figure 4. Patient reported outcomes after switching to an IL-17 medication (percent of total).



CONCLUSION

- Specialty Pharmacies offering the recent IL-17 inhibitors allow for additional treatment options for patients needing alternative therapies.
- By last quarter of 2017, IL-17 inhibitors may have gained clinical acceptance in the treatment of psoriasis given the increased patients prescribed as their first biologic.

1. Baiano, R. The role of specialty pharmacy in psoriasis. 2019; SpecialtyPharmacyContinuum https://www.specialtypharmacycontinuum.com/Review-Articles/Article/02-19/The-Role-of-Specialty-Pharmacy-in-Psoriasis/54144 (Accessed 5/16/2019).

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