TEN-YEAR DRUG SURVIVAL ANALYSIS IN MODERATE TO SEVERE PLAQUE PSORIASIS FIRST-LINE TREATMENT

Bordeaux, France
20, 21, 22th March 2024

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Background and Importance

- ✓ Biologics changed treatment paradigm in moderate to severe plaque psoriasis improving efficacy and tolerability.
- ✓ Drug survival is defined as the time interval between treatment initiation and discontinuation.
- ✓ Several factors may influence drug survival such as efficacy, tolerability, and treatment adherence.
- ✓ Thus, drug survival can be used as a surrogate for treatment effectiveness.

Aim and Objectives

- ✓ We aimed to determine the ten-year drug survival for the biologics used in the treatment of moderate to severe plaque psoriasis where possible, in order to estimate real world effectiveness and improve initial treatment decision making, considering biosimilar's availability and costs.

Material and Methods

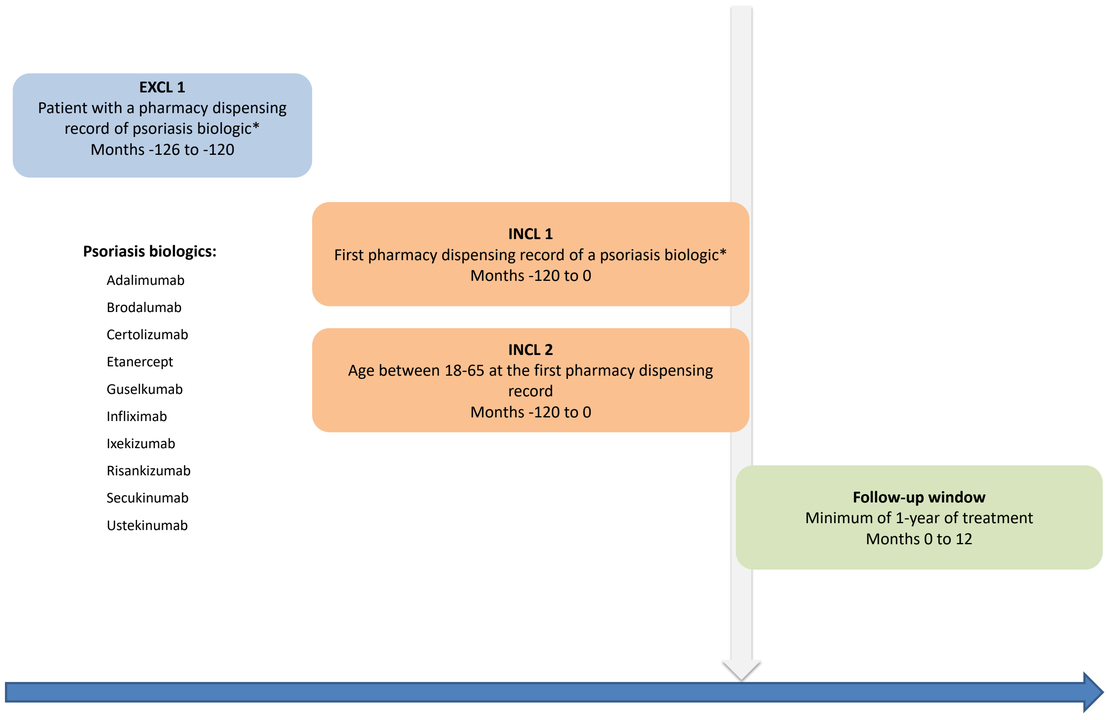

Figure 1. Data collection strategy. Pharmacy dispensing records from all patients with a diagnosis of moderate to severe plaque psoriasis treated with biologics were collected between 31/08/2011 and 28/02/2023. A "wash-out" period of six months was used to select first-line biologic patients. Data were censored at 28/02/2022, considering a minimum follow-up of one year for the last patient included. Treatment discontinuation was defined if no records were found in the last three months of the follow-up window. Data were analysed using R statistical software (version 4.0.2). EXCL – Exclusion criteria. INCL – Inclusion criteria.

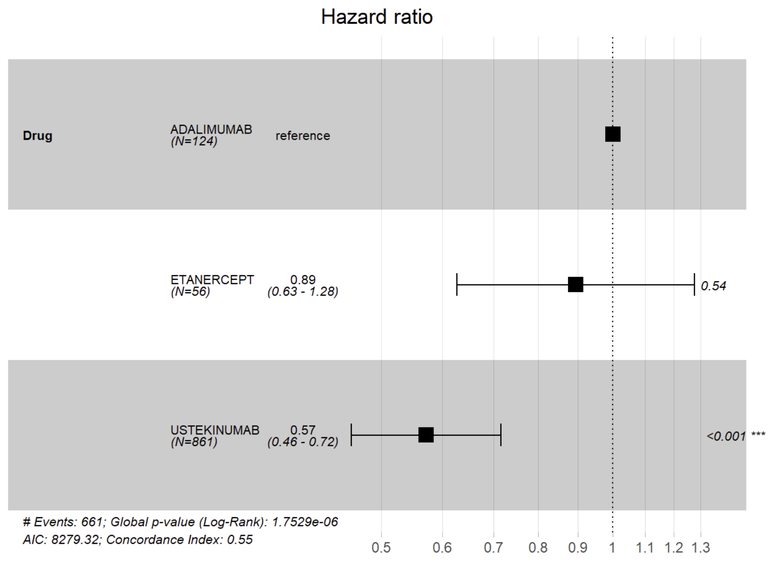

Figure 3. Forest plot with hazard ratio estimates, confidence intervals and p-values for the Cox regression model fit for each drug, setting adalimumab as the reference.

Results

Table 1. Descriptive analysis of the included patients. Only adalimumab, etanercept and ustekinumab reached a ten-year period. From a initial total of 1352 (41.3% females, median-age 44 years), 1041 patients (76,9%) were included for the ten-year analysis. The other first-line biologics that not reached the period were brodalumab (n=54, maximum 46 months), infliximab (n=13, 85 months), ixecizumab (n=88, 52 months) and secucinumab (n=156, 77 months).

	ADALIMUMAB (N=124)	ETANERCEPT (N=56)	USTEKINUMAB (N=861)	Total (N=1041)
Gender				
• **F**	49 (39.5%)	20 (35.7%)	348 (40.4%)	417 (40.1%)
• **M**	75 (60.5%)	36 (64.3%)	513 (59.6%)	624 (59.9%)
Age at treatment beginning, years				
• **Median (min, max)**	44 (19, 65)	45 (19, 63)	43 (18, 65)	43 (18, 65)
Treatment duration, months				
• **Median (min, max)**	18 (0, 128)	29 (0, 130)	49 (0, 130)	46 (0, 130)
Treatment discontinuation				
• **No**	34	10	336	380
• **Yes, switch to other treatment**	52 (57.8%)	31 (67.4%)	101 (19.2%)	184 (27.8%)
• **Yes, lost to follow-up**	38 (42.2%)	15 (32.6%)	424 (80.8%)	477 (72.2%)

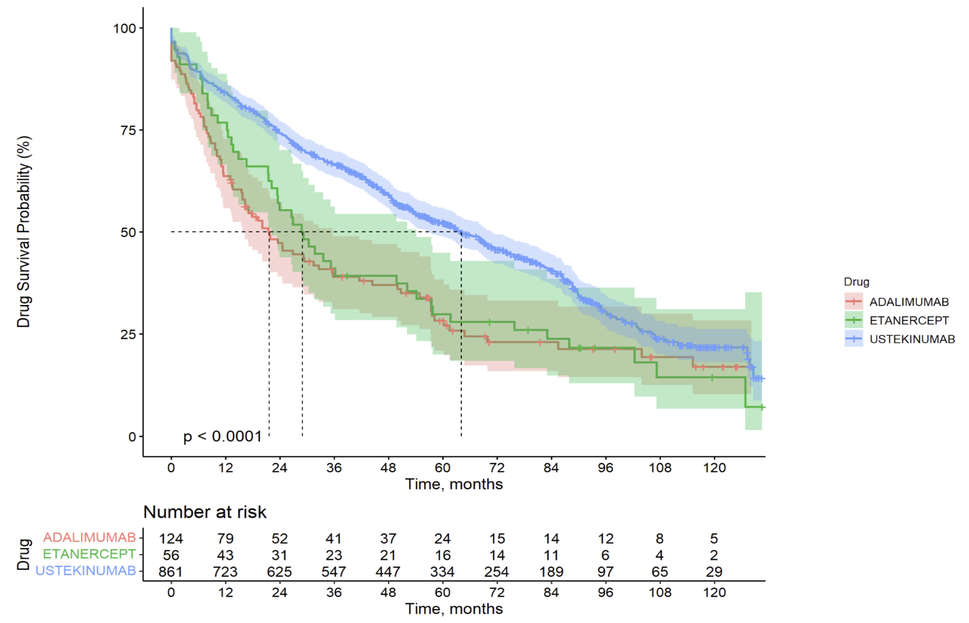

Figure 2. Kaplan-Meier drug survival curves for first-line adalimumab, etanercept and ustekinumab. The median times (months, 95% CI) were, respectively, for adalimumab (21.7, 15.7-35.6), etanercept (29.0, 22.2-54.1) and ustekinumab (64.1, 57.1-70.7). The ten-year drug survival probabilities (percent, 95% CI, number at risk) were, respectively, for adalimumab (17.0, 10.2-28.3, n=5), etanercept (14.5, 6.74-31.1, n=2) and ustekinumab (21.8, 18.1-26.3, n=29). CI – Confidence interval.

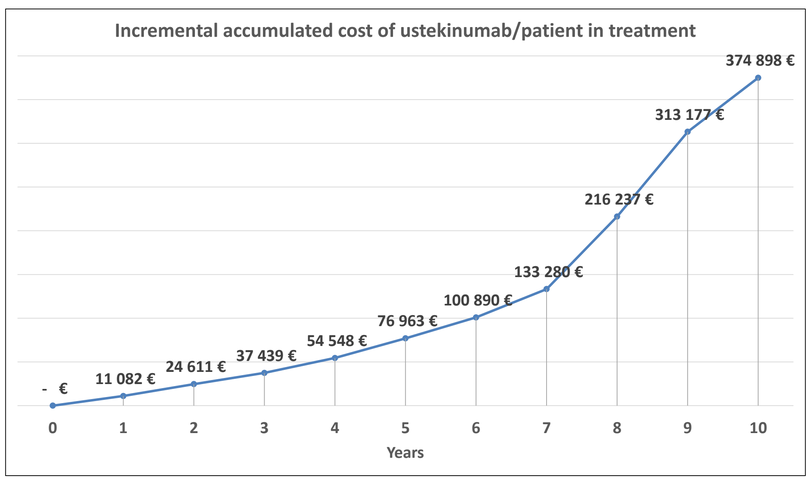

Figure 4. Incremental accumulated costs of ustekinumab per patient in treatment throughout the ten-year period, compared to those of biosimilar adalimumab. The least expensive biosimilar and current 2023 costs were used for analysis.

Conclusion and Relevance

- ✓ Ten-year drug survival analysis was only available for adalimumab, etanercept and ustekinumab. Comparing to adalimumab, ustekinumab showed a significant higher ten-year drug survival (21.8 *vs* 17.0%, p<0.001).
- ✓ In our hospital, first-line ustekinumab costs an additional 374 898 € per patient in treatment after 10 years, compared to biosimilar adalimumab at current costs.
- ✓ As a biosimilar of ustekinumab is becoming available soon, the incremental costs of its use in first-line or whether it remains as effective in second-line should be evaluated.

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Poster number 1ISG-018