Clinical response, drug survival and predictors thereof among 548 switchers of tumor necrosis factor inhibitor therapy in psoriatic arthritis

Results from the Danish nationwide DANBIO registry

On behalf of
Bente Glintborg, MD, PHD

Disclosures

None relevant for this study

DANBIO registry

- National Danish rheumatological database
- Established year 2000
- Clinical database, data collected as part of routine care
- Patients treated with biologicals and other DMARDs
- Mandatory reporting
- Patient consent not required
- High completeness
- www.danbio-online.dk

Background

- TNF inhibitors have improved treatment outcome in patients with psoriatic arthritis both in RCTs and in observational studies
- In case of treatment failure, switching to a second TNF inhibitor is an option
- But does it work?
  - Data on switching in psoriatic arthritis are scarce
  - No RCTs
  - Small observational studies <100-200 switch episodes

Aims

In patients with psoriatic arthritis treated with TNF inhibitors in routine care to investigate:

1) Frequencies and reasons for switching
2) Treatment responses after switching and predictors thereof
3) Treatment adherence (Drug survival) of 1st, 2nd and 3rd drug

Patients and demographics

- Patient inclusion until January 2012
- Follow-up until April 2012
- Up to 10 years of follow-up
- N=1,422 patients including 548 switchers
- Women: 699 patients (49%)
- Median age: 48 years (IQR 39.56 years)
- Median follow-up: 2.3 years (IQR 1.0-4.3 years)
- Main reason for switching: Lack/loss of response (57%)
11/13/2012

Stopped without starting new treatment, 242
1st treatment course, 1,422 patients

Continued treatment, 632

2nd treatment course, 548

Stopped without starting new treatment, 114
Continued treatment, 245

3rd treatment course, 189

Stopped without starting new treatment, 46
Continued treatment, 86

4th treatment course, 57

LOE: lack of effect
AE: adverse events

Non-switchers vs. switchers

Baseline 1st drug | Non-switchers | Switchers | P value
--- | --- | --- | ---
Age (yrs) | 48 | 48 | 0.6
Women (%) | 48 | 56 | 0.01
Disease duration (yrs) | 4 | 1 | 0.01
Symptom duration (yrs) | 7 | 7 | 0.08
Conc. MTX (%) | 15 | 13 | 0.12
DAS28(CRP) | 4.8 | 4.8 | 0.001
ESR | 10 | 13 | 0.0001
CRP (mg/L) | 9 | 9 | 0.9
Fatigue (mm) | 68 | 69 | 0.043
Pain (mm) | 62 | 63 | 0.01
HAQ | 0.9 | 1.1 | 0.0001

Biological drug (%)

Drug | Total | 1st | 2nd | 3rd | 4th
--- | --- | --- | --- | --- | ---
Adalimumab | 39 | 45 | 34 | 22 | 18
Etanercept | 29 | 22 | 58 | 30 | 13
Infliximab | 24 | 30 | 11 | 20 | 12
Golimumab | 5 | 3 | 4 | 15 | 15

Frequent drug combinations (first-second drug):
Adalimumab-etanercept: 28%
Infliximab-etanercept: 20%
Infliximab-adalimumab: 18%
Etanercept – adalimumab: 15%

Treatment responses

DAS28 | Baseline | 6 months | P value | N
--- | --- | --- | --- | ---
1st drug | 4.6 | 2.5 | <0.0001 | 1,422
2nd drug | 4.6 | 3.0 | <0.0001 | 548
3rd drug | 5.0 | 3.2 | <0.0001 | 189

Pain (0-100 mm) | Baseline | 6 months | P value | N
--- | --- | --- | --- | ---
1st drug | 63 | 35 | <0.0001 | 1,422
2nd drug | 65 | 40 | <0.0001 | 548
3rd drug | 72 | 51 | <0.0001 | 189

Number needed to treat (NNT)
Adherence to treatment ("Drug survival")

<table>
<thead>
<tr>
<th>Treatment course</th>
<th>Median drug survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.2 years</td>
</tr>
<tr>
<td>2</td>
<td>1.3 years</td>
</tr>
<tr>
<td>3</td>
<td>1.3 years</td>
</tr>
</tbody>
</table>

Predictors of response

- Multiple logistic regression analysis
- Higher DAS28 predicted ACR20, ACR50, ACR70 and EULAR good response
- Concomitant MTX predicted ACR20 and ACR50 responses
- No difference between type/sequence of TNF inhibitor
- Patients that switched due to LOE had higher chance of achieving ACR20 and ACR50 responses than those who switched due to AE.

Conclusion

- Nearly 40% of PsA patients in clinical practice switched biological treatment during median 2.3 years of follow-up
- Switching was mainly due to lack of effect
- Switchers were more frequently women with high disease activity
- Disease activity decreased during the 1st, 2nd and 3rd treatment course
- The response rates and drug survival were lower in the 2nd and 3rd courses
- No difference between type/sequence of TNF inhibitors
- Irrespective of the reason for discontinuation of the first TNF inhibitor, switching to a second TNF inhibitor should be considered

Thanks

To all the Danish departments who report to the DANBIO registry!