**SUPPLEMENTARY MATERIAL**

Supplementary table 1S to 4S presents a summary results for all PROs (RAPID3, HAQ-DI, DAS28-ESR, and EQ5D-3L) comparing the difference score between bDMARDs and tofacitinib during the follow up in bivariate anaylsis, adjusted reduced model and adjusted full model (tofacitinib was considered as reference group).

**Table 1S. Analysis of difference of score RAPID3 between studied treatments**

|  |  |  |  |
| --- | --- | --- | --- |
| Subgroup | Bivariate analysis | Adjusted reduced model | Adjusted full model |
| Difference | -0.567 | -0.035 | -0.151 |
| SE | 0.396 | 0.385 | 0.443 |
| p-value | 0.154 | 0.928 | 0.734 |

**Table 2S. Analysis of difference of score adapted HAQ-DI between studied treatments**

|  |  |  |  |
| --- | --- | --- | --- |
| Subgroup | Bivariate analysis | Adjusted reduced model | Adjusted full model |
| Difference | -0.021 | 0.055 | -0.097 |
| SE | 0.102 | 0.097 | 0.125 |
| p-value | 0.838 | 0.571 | 0.438 |

**Table 3S. Analysis of difference of score EQ5D-3L between studied treatments**

|  |  |  |  |
| --- | --- | --- | --- |
| Subgroup | Bivariate analysis | Adjusted reduced model | Adjusted full model |
| Difference | 0.085 | -0.013 | 0.01 |
| SE | 0.062 | 0.057 | 0.072 |
| p-value | 0.170 | 0.825 | 0.888 |

**Table 4S. Analysis of difference of score DAS28-ESR between studied treatments**

|  |  |  |  |
| --- | --- | --- | --- |
| Subgroup | Bivariate analysis | Adjusted reduced model | Adjusted full model |
| Difference | -0.909 | -0.40 | -0.167 |
| SE | 0.547 | 0.234 | 0.245 |
| p-value | 0.985 | 0.090 | 0.496 |

Supplementary table 5S to 9S presents a summary results for all PROs (RAPID3, HAQ-DI, DAS28-ESR, and EQ5D-3L) in bivariate anaylsis, adjusted reduced model and adjusted full model for the difference changed between baseline and month 6 for each treatment.

**Table 5S. Difference of RAPID3 scores between baseline and month 6, for each treatment**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Treatment** | **Tofacitinib** | | **Biologics** | |
| Subgroup | Bivariate analysis | Adjusted model | Bivariate analysis | Adjusted model |
| Difference | 2.71 | 2.71 | 3.28 | 3.28 |
| SE | 0.271 | 0.269 | 0.284 | 0.276 |
| p-value | <0.0001 | <0.0001 | <0.0001 | <0.0001 |

**Table 6S. Difference of adapted HAQ-DI scores between baseline and month 6, for each treatment**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Treatment** | **Tofacitinib** | | **Biologics** | |
| Subgroup | Bivariate analysis | Adjusted reduced model | Bivariate analysis | Adjusted model |
| Difference | -0.656 | -0.656 | -0.676 | -0.676 |
| SE | 0.663 | 0.663 | 0.078 | 0.078 |
| p-value | <0.0001 | <0.0001 | <0.0001 | <0.0001 |

**Table 7S. Difference of DAS28-ESR scores between baseline and month 6, for each treatment**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Treatment** | **Tofacitinib** | | **Biologics** | |
| Subgroup | Bivariate analysis | Adjusted reduced model | Bivariate analysis | Adjusted reduced model |
| Difference | 2.13 | 2.13 | 3.03 | 3.03 |
| SE | 0.155 | 0.138 | 0.612 | 0.444 |
| p-value | <0.0001 | <0.0001 | <0.0001 | <0.0001 |

**Table 8S. Difference o EQ5D-3L scores between baseline and month 6, for each treatment**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Treatment** | **Tofacitinib** | | **Biologics** | |
| Subgroup | Bivariate analysis | Adjusted model | Bivariate analysis | Adjusted model |
| Difference | -0.347 | -0.347 | -0.431 | -0.431 |
| SE | 0.042 | 0.042 | 0.045 | 0.045 |
| P value | <0.0001 | <0.0001 | <0.0001 | <0.0001 |

Supplementary tables 9S to 13S present the multivariable analysis of mean changes from baseline to month 6 for each PROs (RAPID3, HAQ-DI, DAS28-ESR, EQ5D-3L) comparing the studied treatments.

**Table 9S. Multivariable analysis of RAPID3 mean changes from baseline to month 6**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Terms | Estimate | Standard error | Statistic | p value |
| (Intercept) | -0,587 | 1,648 | -0,356 | 0,722 |
| Treatment (Tofacitinib) | 0,151 | 0,443 | 0,341 | 0,734 |
| Age | -0,016 | 0,014 | -1,151 | 0,252 |
| DAS28 baseline | 0,025 | 0,061 | 0,401 | 0,689 |
| Country (Colombia) | 1,660 | 0,557 | 2,981 | 0,003 |
| Access barriers (yes) | 1,306 | 0,528 | 2,471 | 0,015 |
| Time to supply | -0,003 | 0,005 | -0,552 | 0,582 |
| Lymphocytes/mm3 | 0,000 | 0,000 | 0,187 | 0,852 |
| Neutrophils/mm3 | 0,000 | 0,000 | 0,919 | 0,360 |
| Tender joint | -0,069 | 0,056 | -1,231 | 0,220 |
| Swollen joint | 0,030 | 0,053 | 0,565 | 0,573 |
| Interruption | 1,046 | 0,732 | 1,429 | 0,155 |
| Disease year | 0,002 | 0,031 | 0,062 | 0,950 |
| Time previous treatment | -0,008 | 0,006 | -1,275 | 0,204 |
| Previous Methotrexate | 1,061 | 0,593 | 1,789 | 0,076 |
| Previous Leflunomide | -0,592 | 0,836 | -0,708 | 0,480 |
| Concomitant Methotrexate | -0,563 | 0,556 | -1,012 | 0,313 |
| Concomitant Leflunomide | 0,168 | 0,720 | 0,233 | 0,816 |
| Concomitant Chloroquine | -0,786 | 0,632 | -1,243 | 0,216 |
| Health insurance (Patient) | -3,061 | 1,586 | -1,930 | 0,056 |
| Health insurance (Public) | -1,955 | 1,400 | -1,396 | 0,165 |
| Health insurance (Private) | -2,783 | 1,409 | -1,975 | 0,050 |

**Table 10S. Multivariable analysis of adapted HAQ-DI mean changes from baseline to month** 6

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Term | Estimate | Standard error | Statistic | P value |
| (Intercept) | -0,315 | 0,462 | -0,682 | 0,496 |
| Treatment (Tofacitinib) | -0,097 | 0,125 | -0,777 | 0,438 |
| Age | -0,003 | 0,004 | -0,790 | 0,431 |
| DAS28 baseline | -0,011 | 0,017 | -0,628 | 0,531 |
| Country (Colombia) | 0,241 | 0,157 | 1,537 | 0,127 |
| Access barriers (yes) | 0,296 | 0,150 | 1,975 | 0,050 |
| Time to supply | -0,002 | 0,001 | -1,245 | 0,215 |
| Lymphocytes/mm3 | 0,000 | 0,000 | 0,677 | 0,500 |
| Neutrophils/mm3 | 0,000 | 0,000 | -0,271 | 0,787 |
| Tender joint | -0,016 | 0,016 | -1,020 | 0,309 |
| Swollen joint | 0,001 | 0,015 | 0,071 | 0,944 |
| Interruption | 0,119 | 0,200 | 0,594 | 0,554 |
| Disease year | 0,013 | 0,008 | 1,539 | 0,126 |
| Time previous treatment | -0,001 | 0,002 | -0,513 | 0,609 |
| Previous Methotrexate | 0,010 | 0,166 | 0,061 | 0,951 |
| Previous Leflunomide | -0,300 | 0,237 | -1,264 | 0,209 |
| Concomitant Methotrexate | 0,061 | 0,157 | 0,390 | 0,697 |
| Concomitant Leflunomide | 0,227 | 0,204 | 1,113 | 0,268 |
| Concomitant Chloroquine | 0,022 | 0,178 | 0,126 | 0,900 |
| Health insurance (Patient) | -0,321 | 0,449 | -0,714 | 0,476 |
| Health insurance (Public) | -0,240 | 0,394 | -0,608 | 0,544 |
| Health insurance (Private) | -0,186 | 0,396 | -0,470 | 0,639 |

**Table 11S. Multivariable analysis of EQ-5D-3L mean changes from baseline to month 6**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Terms | Estimate | Standard error | Statistic | P value |
| (Intercept) | 0,056 | 0,265 | 0,211 | 0,833 |
| Treatment (Tofacitinib) | -0,010 | 0,072 | -0,140 | 0,889 |
| Age | 0,003 | 0,002 | 1,477 | 0,142 |
| DAS28 baseline | -0,003 | 0,010 | -0,274 | 0,784 |
| Country (Colombia) | -0,341 | 0,090 | -3,777 | 0,000 |
| Access barriers (yes) | -0,074 | 0,085 | -0,865 | 0,389 |
| Time to supply | 0,000 | 0,001 | 0,514 | 0,608 |
| Lymphocytes/mm3 | 0,000 | 0,000 | 0,300 | 0,765 |
| Neutrophils/mm3 | 0,000 | 0,000 | -0,043 | 0,966 |
| Tender joint | 0,013 | 0,009 | 1,406 | 0,162 |
| Swollen joint | 0,004 | 0,009 | 0,502 | 0,616 |
| Interruption | -0,082 | 0,114 | -0,716 | 0,475 |
| Disease year | -0,002 | 0,005 | -0,340 | 0,734 |
| Time previous treatment | 0,000 | 0,001 | -0,311 | 0,756 |
| Previous Methotrexate | -0,023 | 0,096 | -0,235 | 0,814 |
| Previous Leflunomide | 0,129 | 0,135 | 0,954 | 0,342 |
| Concomitant Methotrexate | -0,102 | 0,089 | -1,138 | 0,257 |
| Concomitant Leflunomide | -0,109 | 0,116 | -0,935 | 0,351 |
| Concomitant Chloroquine | 0,109 | 0,102 | 1,076 | 0,284 |
| Health insurance (Patient) | 0,342 | 0,256 | 1,334 | 0,184 |
| Health insurance (Public) | 0,269 | 0,225 | 1,198 | 0,233 |
| Health insurance (Private) | 0,222 | 0,226 | 0,981 | 0,329 |

**Table 12S. Multivariable analysis of DAS28-ESR mean changes from baseline to month 6**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Term | Estimate | Standar error | Statistic | P value |
| (Intercept) | -0,440 | 0,830 | -0,530 | 0,597 |
| Treatment (Tofacitinib) | 0,167 | 0,245 | 0,683 | 0,496 |
| Age | 0,012 | 0,007 | 1,660 | 0,099 |
| DAS28 baseline | -0,968 | 0,030 | -31,890 | 0,000 |
| Country (Colombia) | 0,956 | 0,303 | 3,153 | 0,002 |
| Access barriers (yes) | 0,882 | 0,299 | 2,951 | 0,004 |
| Time to supply | -0,002 | 0,003 | -0,925 | 0,357 |
| Lymphocytes/mm3 | 0,000 | 0,000 | 0,288 | 0,774 |
| Neutrophils/mm3 | 0,000 | 0,000 | -0,674 | 0,502 |
| Tender joint | 0,047 | 0,029 | 1,614 | 0,109 |
| Swollen joint | 0,033 | 0,028 | 1,192 | 0,236 |
| Interruption | 0,447 | 0,375 | 1,191 | 0,236 |
| Disease year | 0,009 | 0,015 | 0,599 | 0,550 |
| Time previous treatment | -0,002 | 0,003 | -0,676 | 0,500 |
| Previous Methotrexate | -0,698 | 0,300 | -2,326 | 0,022 |
| Previous Leflunomide | -2,255 | 0,473 | -4,771 | 0,000 |
| Concomitant Methotrexate | 0,368 | 0,281 | 1,310 | 0,193 |
| Concomitant Leflunomide | 1,005 | 0,402 | 2,501 | 0,014 |
| Concomitant Chloroquine | -0,075 | 0,335 | -0,224 | 0,823 |
| Health insurance (Patient) | 0,834 | 0,818 | 1,019 | 0,310 |
| Health insurance (Public) | 1,713 | 0,699 | 2,452 | 0,016 |
| Health insurance (Private) | 1,288 | 0,710 | 1,814 | 0,072 |

**Table 13S. Variables with missing data**

|  |  |  |
| --- | --- | --- |
| **Variables** | **Number of missing** | **Percentage of missing (%)** |
| Age | 1 | 0.59 |
| Disease year | 1 | 0.59 |
| Time previous treatment | 2 | 1.18 |
| Access barriers | 12 | 7.10 |
| Insurance | 12 | 7.10 |
| Time to supply | 28 | 16.57 |
| Lymphocytes/mm3 | 36 | 21.30 |
| Neutrophils/mm3 | 36 | 21.30 |
| Tender joint | 22 | 13.02 |
| Swollen joint | 22 | 13.02 |

Supplementary Table 21S presents a summary of the variables with missing values with the percentage of data. Regarding missing values of some study variables, the multiple imputation methods Multivariate Imputation by Chained Equations (MICE) with 5 imputations using the predictive mean matching based all the variables available to conduct the prediction (outcomes and treatment were not used as predictors). It was run with the package MICE in R software (version 4.0.5). Among the imputed variables, highest percentage of missing values were 21%. The outcome variables do not report missing data at baseline.