**Additional file 4**

**A Sensitivity Analysis patients with wrist arthritis, without n=6 with never wrist arthritis**

**Table, LMM for Poznanski, BA and BMD**

**Poznanski adjusted for age and symptom duration**

|  |  |
| --- | --- |
| Patients | 54 |
| X rays | 105 |
|  | | **Β (95% CI)** | **P** |
| Arm 3 | | ref | - |
| Arm 2 | | 0.076 (-0.43; 0.58) | 0.771 |
| Arm 1 | | 0.16 (-0.30; 0.61) | 0.498 |
| Time | | 0.0036 (-0.0047; 0.012) | 0.391 |
| Arm 3 \* Time | | ref | - |
| Arm 2 \* Time | | -0.0058 (-0.018; 0.0066) | 0.359 |
| Arm 1 \* Time | | -0.0058 (-0.018; 0.0061) | 0.337 |

**Bone Age adjusted for symptom duration**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | | | | |
| Patients | 37 |
| X rays | 72 |
|  | | **Β (95% CI)** | **P** |
| Arm 3 | | ref | - |
| Arm 2 | | 0.99 (0.31; 1.68) | 0.005 |
| Arm 1 | | 0.34 (-0.31; 0.98) | 0.304 |
| Time | | -0.014 (-0.022; -0.0053) | 0.001 |
| Arm 3 \* Time | | Ref |  |
| Arm 2 \* Time | | 0.0092 (-0.0029; 0.021) | 0.136 |
| Arm 1 \* Time | | 0.014 (0.0016; 0.027) | 0.027 |

**Bone Mineral Density adjusted for symptom duration**

|  |  |
| --- | --- |
| Patients | 53 |
| X rays | 104 |
|  | | **Β (95% CI)** | **P** |
| Arm 3 | | ref | - |
| Arm 2 | | 0.077 (-0.67; 0.82) | 0.841 |
| Arm 1 | | 0.84 (0.16; 1.51) | 0.015 |
| Time | | 0.028 (0.017; 0.039) | <0.001 |
| Arm 3 \* Time | | ref | - |
| Arm 2 \* Time | | -0.0054 (-0.022; 0.011) | 0.524 |
| Arm 1 \* Time | | -0.029 (-0.045; -0.013) | <0.001 |

LMM linear mixed model, arm 1: initial sequential monotherapy, arm 2 initial MTX with prednisolone bridging 6 weeks, arm 3 initial MTX with etanercept. BMD Bone Mineral Density; B: β ; 95%CI: 95%Confidence Interval

**Additional file 4 B Sensitivity Analysis Polyarticular JIA patients only**

**Table, LMM for Poznanski, BA and BMD adjusted for age and/or symptom duration**

**Poznanski**

|  |  |
| --- | --- |
| **Patients** | 50 |
| **X rays** | 99 |
|  | | **Β (95% CI)** | **P-value** |
| Arm 3 | | ref | - |
| Arm 2 | | 0.227 (-0.035-0.81) | 0.444 |
| Arm 1 | | 0.219 (-0.34-0.77) | 0.44 |
| Time | | 0.0035 (-0.0049; 0.012) | 0.415 |
| Arm 3 \* Time | | ref | - |
| Arm 2 \* Time | | -0.0041 (-0.016 ; 0.0075) | 0.493 |
| Arm 1 \* Time | | -0.0042 (-0.016; 0.0078) | 0.491 |

**Bone age adjusted for symptom duration**

|  |  |
| --- | --- |
| **Patients** | 34 |
| **X rays** | 68 |
|  | | **Β (95% CI)** | **P-value** |
| Arm 3 | | Ref | - |
| Arm 2 | | 0.89 (0.18;1,61) | 0.015 |
| Arm 1 | | 0.45 (-0.28 ; 1.17) | 0.225 |
| Time | | -0.012 (-0.023; -0.0017) | 0.023 |
| Arm 3 \* Time | | Ref | - |
| Arm 2 \* Time | | 0.0086 (-0.0056; 0.023) | 0.24 |
| Arm 1 \* Time | | 0.015 (-0.0003; 0.03) | 0.055 |

**Bone Mineral Density adjusted for symptom duration**

|  |  |
| --- | --- |
| **Patients** | 50 |
| **X rays** | 100 |
|  | | **Β (95% CI)** | **P-value** |
| Arm 3 | | ref | - |
| Arm 2 | | 0.37 (-0.38 ; 1.12) | 0.33 |
| Arm 1 | | 0.64 (-0.08 ; 1.36) | 0.082 |
| Time | | 0.027 (0.015 ; 0.038) | 0 |
| Arm 3 \* Time | | Ref | - |
| Arm 2 \* Time | | -0.10 (-0.026 ; 0.0053) | 0.20 |
| Arm 1 \* Time | | -0.026 (-0.043 ; -0.010) | 0.001 |

LMM linear mixed model, arm 1: initial sequential monotherapy, arm 2 initial MTX with prednisolone bridging 6 weeks, arm 3 initial MTX with etanercept. BMD Bone Mineral Density; B: β ; 95%CI: 95%Confidence Interval

**Additional file 4C MeanJADAS10score over time**

**Poznanski adjusted for age and symptom duration**

|  |  |
| --- | --- |
| Patients | 60 |
| X rays | 117 |
|  | | **Β (95% CI)** | **P-value** |
| meanJADAS10 \* Time | | 0.0010 (-0.00038-0.0024) | 0.15 |

**Bone Age adjusted for symptom duration**

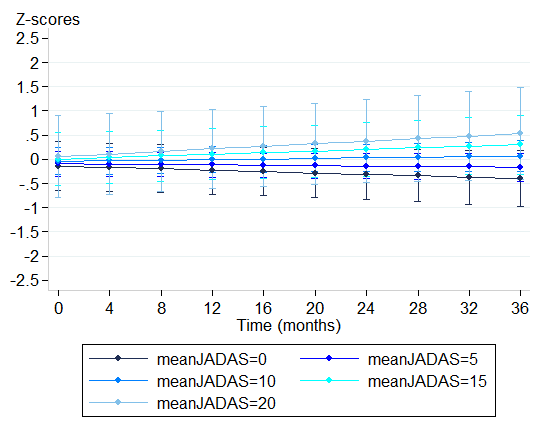
|  |  |
| --- | --- |
| Patients | 41 |
| X rays | 80 |
|  | | **Β (95% CI)** | **P-value** |
| meanJADAS10 \* Time | | -0.00017 (-0.0018-0.0014) | 0.84 |

**Bone Mineral Density adjusted for symptom duration**

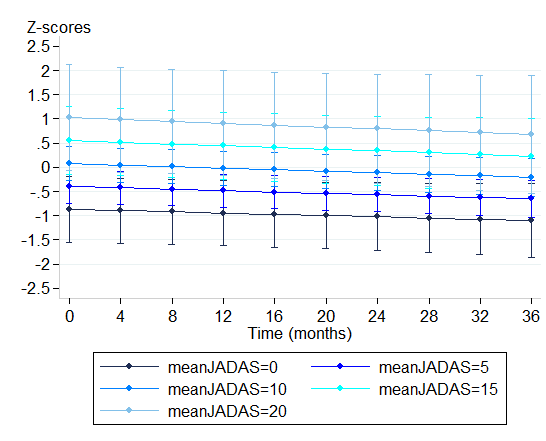
|  |  |
| --- | --- |
| Patients | 59 |
| X rays | 116 |
|  | | **Β (95% CI)** | **P-value** |
| meanJADAS10 \* Time | | 0.00069 (-0.0012-0.0026) | 0.48 |

LMM linear mixed model; meanJADAS10: mean Juvenile Arthritis Disease Activity Score with up to max 10 joints, over 2 years’ time; B: β ; 95%CI: 95%Confidence Interval

Predicted Z-scores RM/M2 (Poznanski score) over time, for different meanJADAS10 scores



Predicted Z-scores for Bone Age over time for different meanJADAS10scores



Predicted Z-scores for Bone Mineral Density over time for different meanJADAS10scoresC:\Users\pcehissinkmuller\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Word\grafiek effect JADAS op BHISDS.TIF

All predictions are from Linear Mixed Models, corrected for age and symptom duration for Poznanski score, corrected for symptom duration for Bone Age and Bone Mineral Density