**Supplementary table 1 Median and mean values of the total erosion score in MCP- and MTP-joints**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | | RA | | Symptom-free control | | Other arthritides | |
| Median (IQR) | | 1.0 (0.4-2.5) | | 0.5 (0-1.5) | | 1.0 (0-2.0) | |
|  | <40 years |  | 0.5 (0-1.3) |  | 0 (0-0.5) |  | 0 (0-0.9) |
|  | 40-59 years |  | 0.5 (0-1.4) |  | 0.5 (0-1.0) |  | 1 (0-2.0) |
|  | ≥60 years |  | 2.0 (1.0-3.5) |  | 1.5 (0.5-2.5) |  | 1.5 (0.5-3.0) |
| Mean (SD) | | 1.8 (2.4) | | 0.9 (1.2) | | 1.3 (1.5) | |
|  | <40 years |  | 1.0 (1.2) |  | 0.3 (0.5) |  | 0.4 (0.6) |
|  | 40-59 years |  | 1.2 (1.8) |  | 0.8 (1.0) |  | 1.2 (1.3) |
|  | ≥60 years |  | 2.5 (2.9) |  | 1.7 (1.5) |  | 1.9 (1.8) |

Presented are the median and mean total erosion scores in MCP- en MTP-joints for RA-patients, symptom-free controls and patients with other arthritides, within different age groups. RA, rheumatoid arthritis; IQR, interquartile range; SD, standard deviation.

**Supplementary table 2 Frequencies of erosions with score ≥2 in the MCP- and MTP-joints of RA-patients and symptom free controls, depicted per age category (18-39, 40-59, ≥60 years)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Erosions | | <40 years | | 40-59 years | | ≥60 years | |
| RA | Control | RA | Control | RA | Control |
| n=33 | n=51 | n=96 | n=90 | n=109 | n=52 |
| MCP 2 | proximal | 0 | 0 | 0 | 0 | 3 | 0 |
|  | distal | 0 | 0 | 0 | 0 | 0 | 0 |
| MCP 3 | proximal | 3 | 0 | 2 | 1 | 3 | **H:\4. MRI erosies ATLAS en EAC\15-2-2017 nieuwe ref RA 1987 en 2010 RA\legend(3).tif**2 |
|  | distal | 0 | 0 | 0 | 0 | 0 | 0 |
| MCP 4 | proximal | 0 | 0 | 0 | 0 | 0 | 0 |
|  | distal | 0 | 0 | 0 | 0 | 0 | 0 |
| MCP 5 | proximal | 0 | 0 | 0 | 0 | 0 | 0 |
|  | distal | 0 | 0 | 0 | 0 | 0 | 0 |
| MTP 1 | proximal | 0 | 0 | 0 | 0 | 3 | 0 |
|  | distal | 0 | 0 | 0 | 0 | 1 | 0 |
| MTP 2 | proximal | 0 | 0 | 1 | 0 | 0 | 0 |
|  | distal | 0 | 0 | 0 | 0 | 1 | 0 |
| MTP 3 | proximal | 0 | 0 | 2 | 0 | 1 | 0 |
|  | distal | 0 | 0 | 0 | 0 | 0 | 0 |
| MTP 4 | proximal | 0 | 0 | 0 | 0 | 0 | 0 |
|  | distal | 0 | 0 | 0 | 0 | 0 | 0 |
| MTP 5 | proximal | 6 | 0 | 1 | 0 | 3 | 0 |
|  | distal | 0 | 0 | 1 | 0 | 1 | 0 |

Values are the percentages of persons with an erosion score of at least 2 of all persons in that age category. RA, rheumatoid arthritis; MCP, metacarpophalangeal joint; MTP, metatarsophalangeal joint.

**Supplementary table 3 Frequencies of RA-patients and patients with other arthritides with grade ≥2 erosions and with erosions with the simultaneous presence of local inflammation in an MCP and/or MTP-joint; analyses on person level**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | |  | **Grade ≥2 erosions** | |  | **Erosions with inflammation** | |
|  |  | | Nr. of persons with erosions | No grade ≥2  erosions | Grade ≥2 erosions |  | Erosion+  inflammation- | Erosion+  inflammation+ |
| **RA** | <40 years | (n=33) | 14 | 11 (79%) | 3 (21%) |  | 3 (21%) | 11 (79%) |
|  | 40-59 years | (n=96) | 39 | 34 (87%) | 5 (13%) |  | 16 (41%) | 23 (59%) |
|  | ≥60 years | (n=109) | 79 | 68 (86%) | 11 (14%) |  | 18 (23%) | 61 (56%) |
|  |  | 238 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **other** | <40 years | (n=68) | 17 | 17 (100%) | 0 (0%) |  | 7 (41%) | 10 (59%) |
| **arthritides** | 40-59 years | (n=146) | 74 | 68 (92%) | 6 (8%) |  | 29 (39%) | 45 (61%) |
|  | ≥60 years | (n=137) | 99 | 93 (94%) | 6 (6%) |  | 29 (29%) | 70 (71%) |
|  |  | 351 |  |  |  |  |  |  |

The presence of grade ≥2 erosions and erosions with inflammation (BME and/or synovitis) was evaluated per MCP- and MTP-bone according to the Rheumatoid Arthritis Magnetic Resonance Imaging Scoring system. Grade ≥2 indicate that >10% of the bone is eroded. The presence of BME and/or synovitis was defined as a score of ≥1. BME, bone marrow edema; RA, rheumatoid arthritis; MCP, metacarpophalangeal joint; MTP, metatarsophalangeal joint.

**Supplementary table 4 Location of erosions in bones of the MCP- and MTP-joints of RA-patients and patients with other arthritides, depicted per age category (18-39, 40-59, ≥60 years)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Erosions | | <40 years | | 40-59 years | | ≥60 years | |
| RA | other arthritides | RA | other arthritides | RA | other arthritides |
| n=38 | n=63 | n=112 | n=130 | n=134 | n=112 |
| MCP 2 | proximal | 5 | 2 | 10 | 6 | 22 | 26 |
|  | distal | 0 | 0 | 4 | 2 | 9 | 8 |
| MCP 3 | proximal | 8 | 8 | 16 | 22 | 31 | 26 |
|  | distal | 0 | 2 | 0 | 0 | 4 | **H:\4. MRI erosies ATLAS en EAC\15-2-2017 nieuwe ref RA 1987 en 2010 RA\legend(3).tif**5 |
| MCP 4 | proximal | 5 | 0 | 3 | 4 | 8 | 6 |
|  | distal | 3 | 0 | 0 | 0 | 0 | 4 |
| MCP 5 | proximal | 0 | 2 | 5 | 5 | 18 | 14 |
|  | distal | 0 | 2 | 1 | 0 | 2 | 1 |
| MTP 1 | proximal | 16 | 8 | 21 | 22 | 36 | 34 |
|  | distal | 0 | 6 | 2 | 2 | 10 | 9 |
| MTP 2 | proximal | 0 | 2 | 2 | 2 | 3 | 3 |
|  | distal | 3 | 0 | 0 | 1 | 4 | 1 |
| MTP 3 | proximal | 0 | 0 | 2 | 1 | 4 | 1 |
|  | distal | 0 | 0 | 0 | 2 | 1 | 1 |
| MTP 4 | proximal | 3 | 0 | 3 | 2 | 1 | 0 |
|  | distal | 0 | 0 | 0 | 0 | 0 | 1 |
| MTP 5 | proximal | 21 | 0 | 11 | 10 | 15 | 10 |
|  | distal | 0 | 0 | 2 | 0 | 1 | 0 |

Values are the percentages of patients with an erosion of all patients in that age category. The presence of an erosion is defined as an erosion score of at least 1 in that bone. RA, rheumatoid arthritis; MCP, metacarpophalangeal joint; MTP, metatarsophalangeal joint.