year of symptom onset. The groups were compared regarding the occurrence of erosive disease, use of corticosteroids (CE) and immunobiologicals (bDMARD), remission rates according to DAS 28-ESR and physical function (Health Assessment Questionnaire - HAQ).

**Results:** A total of 256 patients were included (64 from the BSB Cohort and 64 patients from each of the REAL1, 2 and 3 subsamples), predominantly female (88.3%), white (52%), with a mean age of 53.7 years, positive rheumatoid factor (73.4%), mean total disease duration of 94.1 months and delay time between first symptoms and use of first DMARD of 6.94 months. The groups compared did not differ significantly in terms of gender ($\chi^2$ = 8.19, $p=0.103$), race ($\chi^2$ = 7.08, $p=0.053$), age ($F=1.28$, $p=0.279$), presence of positive rheumatoid factor ($\chi^2$ = 1.89, $p=0.394$), mean disease duration ($F=1.96$, $p=0.120$) and time delay of symptoms until use of the first DMARD ($F=0.34$, $p=0.793$). The BSB Cohort showed significantly less frequency of erosive disease, use of CE and bDMARD, and higher DAS 28-ESR remission rate (Figure 1). Mean HAQ score was lower in the BSB Cohort (0.546) than in the REAL1 (1.023), REAL2 (0.821) and REAL3 (0.748), $F=5.23$, $p=0.02$. Mean DAS 28-ESR was lower in the BSB Cohort (2.90) than in the REAL1 (3.68), REAL2 (3.44) and REAL3 (3.21), $F=4.33$, $p=0.018$.

**Conclusion:** Under real-life conditions, in the long-term, adherence to T2T and TC principles was found essential to preserve the expected benefits of the early RA treatment within the window of opportunity, in terms of less occurrence of erosive disease, less use of CE and bDMARD, higher DAS 28-ESR remission rate and better physical function (lower HAQ score).

**Table 1. Characteristics of four Danish patients diagnosed with Lyme arthritis**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Age at diagnosis (years)</th>
<th>Joint affected</th>
<th>History of tick bite</th>
<th>History of EM serology</th>
<th>PCR positive for B.b.s.l in synovial fluid</th>
<th>CRP (mg/l)</th>
<th>Duration of arthritis prior to antibiotic treatment (months)</th>
<th>Intraarticular steroid injections before antibiotic treatment</th>
<th>Treatment after LA diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>78</td>
<td>Right knee</td>
<td>++ -</td>
<td>IgG + IgM -</td>
<td>+ + +</td>
<td>36</td>
<td>38</td>
<td>Frequent*</td>
<td>Ceftriaxone (two courses)</td>
</tr>
<tr>
<td>Male</td>
<td>41</td>
<td>Right wrist</td>
<td>++ -</td>
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**Acknowledgements:** NIL.

Disclosure of Interests: None Declared.

**REFERENCES:**


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**Figures:**

- Figure 1. Comparison of the occurrence of erosive disease, CE and bDMARD use and the DAS 28-ESR remission rate in the BSB Cohort (strict control) and REAL cohorts 1, 2 and 3 (conventional control). Note: $\chi^2$ = chi squared; V = Crammer’s V, $p$ = p-value (significant at <0.05).

**Keywords:** Inflammatory arthritides, Infection-related RMDs

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1. Esbjerg Hospital, Rheumatology, Esbjerg, Denmark; 2. Odense University Hospital, Clinical Microbiology, Odense, Denmark; 3. Odense University Hospital, Infectious Diseases Q, Odense, Denmark

**Background:** Lyme arthritis (LA) is a rare manifestation of Lyme borreliosis in Denmark with an unknown incidence [1-2]. Typically, LA present with persistent or intermittent mono-arthritis in large joints especially the knees [3-4]. Clinically, LA does not differ significantly from other rheumatological oligoarthritic disorders, and due to a supposed low incidence, it poses a differential diagnostic challenge with risk of misdiagnosis.

**Objectives:** To describe a case series of four Danish patients diagnosed with LA from 2021-2022.

**Methods:** A case series.

**Results:** We describe a case series consisting of four Danish patients diagnosed with LA at the Department of Rheumatology, Esbjerg Hospital within a year (2021-2022). All patients presented with recurrent knee joint swelling, yet one patient also had arthritis in the upper extremities. All four patients reported previous tick bite, but none had a history of erythema migrans. The diagnosis was delayed up to one year due to lack of attention to LA as a potential differential diagnosis. The diagnosis was established based on the Borrelia burgdorferi sensu lato complex (B.b.s.l.) anti-IgG antibodies in patient serum and detection of B.b.s.l. DNA by real-time PCR of synovial fluid. All patients received antibiotics in a four-weeks period. However, one patient was re-treated because of recurrence of joint swelling in the upper extremities and detection of B.b.s.l. DNA by PCR in synovial fluid from the wrist joint, after completing the first line-antibiotic regimen. Three patients have fully recovered and have shown no sign of arthritis in a period ranging from 4 to 15 months. One patient is currently treated with Methotrexate.

**Conclusion:** This case series demonstrates that LA is an important differential diagnosis in persistent or intermittent mono- or oligo arthritis, especially in the knee joint. Lack of routine assessment of tick risk behavior, antibody status and/or assessment of the presence of B.b.s.l. DNA in synovial fluid by PCR methods, can lead to underdiagnosed cases. Obviously, insufficient examination can lead to a falsely assumed low incidence. It could be considered that the low incidence of LA in Denmark partly is caused by lack of attention to B.b.s.l. as a possible explanation for mono- or oligo arthritis. Clearly, this can lead to mistreatment.

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Methods: We studied 649 RA-patients (358 ACA-positive, 291 ACA-negative), consecutively included in Leiden Early Arthritis Clinic from May 2011 onwards, and with a total of 2871 DAS-measurements over 5 years. Courses of DAS44 and DAS28 were compared with a logistic regression model for acute and sustained responders.

Background: Obese rheumatoid arthritis (RA) patients have higher disease activity scores (DAS) and lower odds of achieving remission. Although it has been convincingly shown that obese RA-patients experience more pain and have lower wellbeing scores, results are conflicting whether obesity has “pro-inflammatory effects” measured by higher swollen joint count (SJC) and CRP levels. Additionally, associations of obesity with the DAS-components have not been studied longitudinally and it is unknown whether “pro-inflammatory effects” are similarly present in ACA-positive and -negative RA. As in vitro data suggested that ACA can enhance inflammatory-responses, we hypothesized that the association of obesity with SJC and CRP is strongest in ACA-positive RA.

Objectives: To increase the understanding regarding the effect of obesity on the course of disease activity by studying associations of obesity with DAS-components in ACA-positive and ACA-negative RA.

Methods: We studied 649 RA-patients (358 ACA-positive, 291 ACA-negative), consecutively included in Leiden Early Arthritis Clinic from May 2011 onwards, and with a total of 2871 DAS-measurements over 5 years. Courses of DAS44 and DAS28 were compared with a logistic regression model for acute and sustained responders.

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