Early synovitis clinics

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RA medication timeline

- Aspirin
- GOLD
- steroids
- MTX
- TNF
- RTX
- Abatacept
- Tocilizumab
- Cetroluzimab
- Golimumab

1900
1930s
1950s
1980s
1999
2005-2006
2008+

Treat signs and symptoms in established disease

Aggressive MTX dosing, combination therapy, disease modification
Rheumatology is an exciting place to be in 2016

Fantastic designer drugs have revolutionised the management of inflammatory disease

- The outcome for patients dramatically improved
- Revolutionised the way care for these patients is provided

Big improvements in orthopaedics and anaesthetics have revolutionised the management of the orthopaedic patient.

- Outcome for these patients greatly improved
- Changed the way care for these patients is provided
Rheumatoid Arthritis
2016

• Ultimate goals of therapy:
  – Remission of disease
  – Prevention of joint damage
  – Prevention of chronic pain/disability/Misery
RA: New treatment model

• Early diagnosis and treatment
• Rewrite diagnostic criteria
• New NICE Guidelines and result of Audit
• Cyclic Citrullinated peptide antibodies (Anti-CCP)
• Ultrasound
• Treat to Target (T2T) using
• Disease Activity Score - DAS 28 ESR or CRP
Aiming for remission of RA

• Treat as early as possible
• There seems to a window of opportunity first few months to minimise effects of disease
• So patients need early diagnosis
• So patients need early referral
• So they can have early treatment
Table 6. American College Of Rheumatology Revised Criteria For The Diagnosis Of Rheumatoid Arthritis.

To make the diagnosis of RA, four of the following criteria must be present. Criteria 1-4 must have been present for at least six weeks.

1. Morning stiffness
2. Arthritis of three or more joint areas
3. Arthritis of hand joints
4. Symmetric arthritis
5. Rheumatoid nodules
6. Serum rheumatoid factor
7. Radiographic changes

Table 3. The 2010 American College of Rheumatology/European League Against Rheumatism classification criteria for rheumatoid arthritis

<table>
<thead>
<tr>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target population (Who should be tested?): Patients who</td>
</tr>
<tr>
<td>1) have at least 1 joint with definite clinical synovitis (swelling)*</td>
</tr>
<tr>
<td>2) with the synovitis not better explained by another disease†</td>
</tr>
<tr>
<td>Classification criteria for RA (score-based algorithm: add score of categories A–D; a score of ≥6/10 is needed for classification of a patient as having definite RA)‡</td>
</tr>
<tr>
<td><strong>A. Joint involvement§</strong></td>
</tr>
<tr>
<td>1 large joint¶</td>
</tr>
<tr>
<td>2–10 large joints</td>
</tr>
<tr>
<td>1–3 small joints (with or without involvement of large joints)#</td>
</tr>
<tr>
<td>4–10 small joints (with or without involvement of large joints)</td>
</tr>
<tr>
<td>&gt;10 joints (at least 1 small joint)**</td>
</tr>
<tr>
<td><strong>B. Serology (at least 1 test result is needed for classification)††</strong></td>
</tr>
<tr>
<td>Negative RF and negative ACPA</td>
</tr>
<tr>
<td>Low-positive RF or low-positive ACPA</td>
</tr>
<tr>
<td>High-positive RF or high-positive ACPA</td>
</tr>
<tr>
<td><strong>C. Acute-phase reactants (at least 1 test result is needed for classification)‡‡</strong></td>
</tr>
<tr>
<td>Normal CRP and normal ESR</td>
</tr>
<tr>
<td>Abnormal CRP or abnormal ESR</td>
</tr>
<tr>
<td><strong>D. Duration of symptoms§§</strong></td>
</tr>
<tr>
<td>&lt;6 weeks</td>
</tr>
<tr>
<td>≥6 weeks</td>
</tr>
</tbody>
</table>
NICE: Referral for specialist opinion

Refer urgently if any of the following apply:

• the small joints of the hands or feet are affected
• more than one joint is affected
• there has been a delay of 3 months or longer between onset of symptoms and seeking medical advice

Rheumatoid arthritis (2009 updated 2015) NICE guideline CG79
**NICE; RA quality standard 1**

- People with suspected persistent synovitis affecting the small joints of the hands or feet, or more than 1 joint, are referred to a rheumatology service within **3 working days** of presentation.

*NICE clinical guideline 79* recommendation 1.1.1.1 (key priority for implementation).
People with suspected persistent synovitis are assessed in a rheumatology service within 3 weeks of referral.

NICE clinical guideline 79 recommendation 1.1.1.1 (key priority for implementation).
People with newly diagnosed rheumatoid arthritis are offered short-term glucocorticoids and a combination of disease-modifying anti-rheumatic drugs by a rheumatology service within 6 weeks of referral.

NICE clinical guideline 79 recommendation 1.1.1.1 (key priority for implementation).
Cyclic Citrullinated peptide antibodies (Anti-CCP)

• Anti-CCP are detected in approx 80% of RA pt at a specificity of around 98%
• Around 40% of Rheumatoid Factor negative patients appear to be anti CCP positive.
• Anti CCP can help clinicians distinguish RA patients from rheumatic diseases where the RF is not always discriminative – eg SLE, Sjogrens Syndrome, Chronic Hep C virus infections
• Antibodies to CCP can be detected up to 15 years prior to disease symptoms appearing.
Early synovitis clinic:

Object; to assess patient for diagnosis of inflammatory arthritis

• Held weekly on Friday afternoon
• Patients should be seen within three weeks or less
• Rheumatologists
• Ultrasound examination of small joints
• Nurses ready to start DMARDs* that day

DMARDS = Disease Modifying Anti-Rheumatoid Drugs
Ultra sound flexor tendons RA patient

Longitudinal tenosynovitis
Flexors ring finger

Same patient
Normal middle finger
FIGURE 2. Power Doppler scan of the 1st metatarsophalangeal joint (dorsal longitudinal scan). There is a small anechoic effusion surrounded by grade 3 Doppler signal that represents florid synovitis. [A anechoic effusion; D Doppler signal; M metatarsal head; P proximal phalanx]

FIGURE 8. Cortical bone erosion of the 2nd metacarpophalangeal joint in rheumatoid arthritis (dorsal longitudinal scan). The erosion is sited at the anatomical neck of the metacarpal head. [E erosion; M metacarpal head; P proximal phalanx]
ROLE OF ULTRASOUND

1. Diagnosis of RA
   - Earlier identification of signs

2. Detection of early erosions in RA
   - Earlier classification of aggressive disease

3. Assessment of residual synovitis in RA
   - Rapid recognition of Treatment failures

Symptoms

Diagnosis

Assessment of prognosis

1st Therapy

Efficacy/safety assessment

2nd Therapy
DRUG Treatment

• Rapid reduction of synovitis, swelling pain stiffness
• Err on the side of overtreating
• Treat to Target using the DAS (Disease activity score)
DAS 28

• The number of swollen joints (tender28)

• The number of tender joints (swollen28)

• ESR/CRP

• Patients global disease activity; Visual Analogue Scale of 100 mm (0-100)
DAS scores

- DAS28 < 5.1   high disease activity
- DAS28  3.2-5.1  moderate disease activity
- DAS28  2.6-3.2  low disease activity
- DAS28  >2.6    remission
DMARDs
(Disease modifying anti rheumatoid drugs)

- Methotrexate; rapidly escalating from 15mg to 25mg/week; then to sub cut if necessary
- If Inflammation +, 120mgs Depomedrone IMI
- Combination therapy (MTX, OHCL, SZP)
- Leflunomide
- Tacrolimus/ciclosporine
NICE guidelines for use of biologics in RA

1. Disease activity score: >5.1
2. Failed 2 DMARDs for 6 months (one = MTX)
3. First choice: A TNF agent
   - Infliximab (chimeric monoclonal ab)
   - Etanercept (recombinant TNF\(\alpha\) receptor)
   - Adalimumab
NICE guidelines for use of biologics in RA

(2)

- If first TNF doesn’t work:
  - NICE: - Rituximab (B cell depleting monoclonal antiCD20 antibody)
  - BSR: - another TNF

Other Biologics

- Abatacept - selective T cell costimulation blocker
- Tocilizumab - IL6-R monoclonal Antibody
- Golimumab - Human monoclonal TNF binding antibody
- Certolizumab - Pegylated Fab fragment of humanised monoclonal ab against TNF
Biologics

- Often dramatic effects
- Sometimes some help
- Sometimes little help
- Inconvenience of injection
- Don’t need blood tests (but often patients are also on MTX)
- Increases risks of infection
- Be careful of reactivating previous TB
- Contraindicated in Cancer
NICE Quality Standard 1

NICE Quality Standard 1 recommends that people with suspected persistent synovitis affecting the small joints of the hands or feet, or more than one joint should be referred to a rheumatology service within 3 working days of presentation to their GP.

<table>
<thead>
<tr>
<th>Trust Name</th>
<th>Number of patients recruited at baseline</th>
<th>Patient referred within 3 days (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National level</td>
<td>6,354</td>
<td>1,072 (17%)</td>
</tr>
<tr>
<td>Regional level</td>
<td>366</td>
<td>146 (40%)</td>
</tr>
<tr>
<td>Betsi Cadwaladr University Health Board</td>
<td>186</td>
<td>92 (49%)</td>
</tr>
<tr>
<td>Peter Maddison Rheumatology Centre</td>
<td>87</td>
<td>72 (83%)</td>
</tr>
</tbody>
</table>
NICE Quality Standard 2 recommends that people with suspected persistent synovitis are assessed in a rheumatology service within 3 weeks of referral.

<table>
<thead>
<tr>
<th>Trust Name</th>
<th>Number of patients recruited at baseline</th>
<th>Patient referred within 3 weeks (%) NICE Quality Standard 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>National level</td>
<td>6,354</td>
<td>2,401 (38%)</td>
</tr>
<tr>
<td>Regional level</td>
<td>366</td>
<td>102 (28%)</td>
</tr>
<tr>
<td>Betsi Cadwaladr University Health Board</td>
<td>186</td>
<td>65 (35%)</td>
</tr>
<tr>
<td>Peter Maddison Rheumatology Centre</td>
<td>87</td>
<td>59 (68%)</td>
</tr>
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</table>
NICE Quality Standard 3 (2015)

NICE Quality Standard 3 recommends that people with newly diagnosed RA should be offered short-term glucocorticoids and a combination of disease-modifying anti-rheumatic drugs by a rheumatology service within 6 weeks of referral.

<table>
<thead>
<tr>
<th>Trust Name</th>
<th>Number of patients recruited at baseline</th>
<th>Patients commenced DMARD &lt;6 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>National level</td>
<td>3,268</td>
<td>1,727 (53%)</td>
</tr>
<tr>
<td>Regional level</td>
<td>223</td>
<td>128 (48%)</td>
</tr>
<tr>
<td>Betsi Cadwaladr University Health Board</td>
<td>97</td>
<td>40 (41%)</td>
</tr>
<tr>
<td>Peter Maddison Rheumatology Centre</td>
<td>87</td>
<td>71 (82%)</td>
</tr>
</tbody>
</table>
Organisational factors and compliance with standards 1, 2 and 3

1. Number of consultants per 100,000 patients

2. Those units with Early Synovitis clinics

National Clinical Audit for Rheumatoid and Early Inflammatory Arthritis. 1st Annual Report 2015
(Data collection: 1 February 2014 – 30 April 2015)
MDT

• Doctor; diagnosis; oversees management
• Nurses; education, drugs, psychosocial
• Physios; exercise, joint health.
• Occ Therapist; work, leisure, ADLs
• Orthotist/Podiatrist; foot care
• Orthopod; We hope it won’t be necessary
Advances in RA care

- Biologics
- Diagnose and treat as early as possible
- CCP helps in diagnosis
- Ultrasound helps in diagnosis and will help into monitoring effects of treatment
- New diagnostic criteria recognise need to treat early
- Treat to target using the DAS
- MDT keeps bio-psychosocial factors and rehab in the equation
Muscle atrophy in chronic arthritis