EARLY INFLAMMATORY ARTHRITIS

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EIA: Introduction

National priority

- Preventable cause of disability
- Very common condition
- High cost for the UK
- Delays lead to joint damage and disability
- IA affects over 1,000,000 people in England
- The cost of RA alone is around £8 billion a year

Various forms of IA

- most common: RA (Rheumatoid Arthritis)
- other forms: PsA (Psoriatic Arthritis), Spondylarthropathy with peripheral arthritis, UIA (Undifferentiated Inflammatory Arthritis)
EIA Clinics in BSUH

• One clinic in Princess Royal Hospital (one consultant + one Registrar)

• One clinic in Royal Sussex County Hospital (one consultant + one Registrar)

• Nurse led clinics (DMARD Escalation)

• Two Rheumatology Consultants trained for MSK Ultrasonography for synovitis screening
sEIA: Referral Process

• NICE QS1
  “people with suspected persistent synovitis affecting the small joints of hands and feet, or more than one joint are referred to a rheumatology service within 3 working days of presentation”

• NICE QS2
  “People with suspected persistent synovitis are assessed in Rheumatology service within 3 weeks of referral”

• EULAR recommendation no.1 for EIA
  “Patients presenting with arthritis (any joint swelling, associated with pain or stiffness) should be referred to, and seen by a rheumatologist, within 6 weeks after the onset of the symptoms.”
Recognition

All suspected EIA patients:

- Full history & Clinical Examination
- Laboratory tests (RF, CCP-Ab, ESR, CRP, ANA, FBC, other relevant immunological tests)
- Plain film Radiography

In selected patients:

- Serologic studies for infection (for human parvovirus B19, HBV, HCV, Lyme disease, chikungunya virus infection)
- Synovial fluid analyses (cell count and differential, crystal search, Gram stain and culture)
- MRI or US scan for joints
sEIA: Full History and Clinical Examination

- Persistent joint inflammation ≥ 6 weeks in 2 or more joints
  - Tenderness over the joint line
  - Joint swelling
  - Painful limited ROM
- Morning stiffness ≥ 30 minutes
- Duration of symptoms < 1 year

- MCP and/or MTP positive squeeze test
- Joint stiffness following periods of immobility
- Significant benefits from NSAIDs
- Strong Family History
RA Recognition Clinical Examination

Typical ‘classical’ RA

- pain, stiffness and swelling of many joints
- MCPs, PIPs, MTPs joints

• Palindromic RA
  - One to several joint areas affected sequentially for hours to days

• Monoarthritis
  - The interval between monoarthritis to polyarthritis may extend from days to several weeks
## PsA Recognition Clinical Examination

<table>
<thead>
<tr>
<th>Arthritis</th>
<th>Periarticular Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Distal Arthritis</td>
<td>• Enthesitis</td>
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<tr>
<td>• Asymmetric oligoarthritis</td>
<td>• Tenosynovitis</td>
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<tr>
<td>• Symmetric polyarthritis</td>
<td>• Dactylitis</td>
</tr>
<tr>
<td>• Arthritis mutilans</td>
<td></td>
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<tr>
<td>• Spondylarthritis</td>
<td></td>
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</tbody>
</table>

- Periarticular disease includes:
  - Enthesitis
  - Tenosynovitis
  - Dactylitis

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### Seronegative Spondyloarthritis

- Ankylosing spondylitis (AS)
- non-radiographic axial spondyloarthritis (nr-axSpA)
- Peripheral SpA
- SpA associated with psoriasis

<table>
<thead>
<tr>
<th>Low back pain/imflammatory back pain</th>
<th>Peripheral arthritis</th>
<th>Enthesitis</th>
<th>Other MSK features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dactylitis (sausage digit)</td>
<td>Knees and ankles</td>
<td>Achilles tendon</td>
<td>Anterior chest wall pain</td>
</tr>
<tr>
<td></td>
<td>Asymmetrical</td>
<td>Plantar fascia</td>
<td>Rib cage pain</td>
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<tr>
<td></td>
<td>Only one or 3 joints usually</td>
<td>Iliac crests</td>
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<td>greater trochanters</td>
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<td></td>
<td>Manubrial-ster nal joints</td>
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<td></td>
<td>Epicondyles at the elbows</td>
<td></td>
</tr>
</tbody>
</table>
EIA detection

Serology:

• RF 70-80% of patients with RA
  – low specificity
  – High titers = at least 3 times the ULN

• CCP antibodies
  - Similar sensitivity for RF for RA
  - High Specificity 95-98

Acute Phase Reactants:

• Normal Reactants:
  – very infrequent in untreated RA
  – Useful to distinguish from OA and fibromyalgia

• ESR 50-80
  - Severely active RA

• ESR 20-30
  - Mild to moderate active joints
EIA: Radiographs hands wrist and feet

- Baseline for monitoring disease progression
- Joint erosion?
- Alternative diagnosis (e.g. chondrocalcinosis, OA)

Erosions in the PIP joints
sEIA: Synovitis Recognition

EULAR Recommendation no.2 for EIA:

“Clinical examination is the method of choice for detecting arthritis, which may be confirmed by ultrasonography (US)”

“several studies suggested greater sensitivity of US scan than clinical exam in detecting synovitis in the knee and the small joints.”
EIA Recognition - MSK Ultrasonography

Joint

2^{nd} MCP
5^{th} MCP
5^{th} MTP

Synovial hypertrophy
Hyperemia (Power Doppler Signal)
Bone erosion
EIA Recognition - MSK Ultrasonography

Tendon

- ECU (Extensor Carpi Ulnaris)
- Flexor tendon - 2\textsuperscript{nd}, 3\textsuperscript{rd}, 4\textsuperscript{th} fingers

- Widening of the tendon sheath
- Synovial hypertrophy
- Hyperemia
- Loss of Fibrillar texture
- Enthesitis
EIA Recognition - MSK Ultrasound

Wrist: Power Doppler in rheumatoid arthritis

Achilles tendon: Tendonitis, Enthesitis and retrocalcanean bursitis

Finger flexor power doppler signal

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EIA: MRI for early detection

- lack of specificity as suggested by the prevalence of MRI abnormalities in the normal population
- long scanning time
- limited access
- relatively high cost
- to be used in very difficult cases or in patients with specific form of arthritis
sEIA Recognition: Diagnostic Outcome

- Specific Diagnosis (RA very common) - 70%
- Undifferentiated Arthritis - 30%
- 1/3 RA
- OA
- Other defined Arthritis
- Remained UIA
- Spontaneous remission
EIA Early Management

• NICE QS3
  “people with newly diagnosed rheumatoid arthritis are offered short term glucocorticoids and a combination of DMARDs by a rheumatology service within 6 weeks of referral”

• EULAR recommendation no.5 for EIA
  “Among the DMARDs, methotrexate (MTX) is considered the anchor drug and unless contraindicated, should be part of the first treatment strategy in patient at risk of persistent disease”
# Early RA confirmed: Management Protocol

<table>
<thead>
<tr>
<th>DAS28&gt;5.1</th>
<th>DAS28 3.2-5.1</th>
<th>DAS28 &lt;3.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prednisolone 30mg od 1/52&lt;br&gt;25mg od 1/52&lt;br&gt;20mg od 1/52&lt;br&gt;15mg od 1/52&lt;br&gt;10mg od 1/52&lt;br&gt;5mg od 1/52 then stop</td>
<td>IM Depomedrone 80 – 120mg or IA if necessary</td>
<td><strong>Poor prognostic features</strong>*&lt;br&gt;Sulfasalazine&lt;br&gt;Methotrexate&lt;br&gt;Leflunomide</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>No poor prognostic features</strong>&lt;br&gt;Hydroxychloroquine&lt;br&gt;Sulfasalazine&lt;br&gt;IA injections</td>
</tr>
</tbody>
</table>

- Methotrexate 15mg weekly (escalate by 2.5mg weekly to target does 20-25mg weekly if needed)
- Folic acid 5mg weekly
- Hydroxychloroquine 200mg bd (max 6mg/kg) 3/12 then reduce to od

*CCP / RhF +ve, erosive, high HAQ-DI, raised CRP/ESR, FH RA

Courtesy of Rizwan Rajak, Consultant Rheumatologist Croydon University Hospital
## Early RA confirmed: Management Protocol

### Medical Review at 3 months

<table>
<thead>
<tr>
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<th>DAS28 &lt;3.2</th>
</tr>
</thead>
</table>
| • IM / IA /IV steroids as indicated  
• Consider MTX/SASP/HCQ  
• Consider MTX/Lef/HCQ | **No / poor response**  
• Consider combination with SAPS /Lef  
• Consider IM / IA steroids  
**Response**  
• Aim for DAS28 <3.2  
• Negotiate desired control with patient | • Negotiate desired control with patient  
• IA steroids if indicated |

### Medical Review at 6 months

<table>
<thead>
<tr>
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<th>DAS28 3.2-5.1</th>
<th>DAS28 &lt;3.2</th>
</tr>
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</table>
| • Begin planning for Anti-TNF - 2nd DAS assessment 1 month later in specialist burse clinic  
• Check Anti-TNF screening tests  
• -Consider low dose steroids after 2nd DAS obtained until anti-TNF funding application complete | **No/poor response**  
• Aim for DAS28 <3.2  
• Consider combination with SASP/Lef  
• Consider IM/IA steroids  
• 3-6 monthly review until satisfactory disease control | Consider annual review alone for well controlled stable patients |

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Courtesy of Rizwan Rajak, Consultant Rheumatologist Croydon University Hospital
Undifferentiated Inflammatory Arthritis

- diagnosis of exclusion

- $\frac{1}{4}$ to $\frac{1}{3}$ of the assessed patients in EIA clinic

- $\geq 1$ clinical swollen joint in the absence of further abnormalities sufficient to meet criteria for a specified alternative diagnosis

- Diagnostic evaluation:
  - History & Physical examination
  - Laboratory testing
  - Arthrocentesis (? infection ? crystal arthritis)
  - Imaging studies (US scan/MRI scan)

- Usually within a year UIA evolved to a specific diagnosis
UIA Management

EULAR Recommendation no.4 for EIA:

“Patient at risk of persistent arthritis should be started on DMARD as early as possible (ideally within 3 months), even they do not fulfill classification criteria for an inflammatory rheumatological disease.”

UIA that resembles RA
(with prominent upper extremity involvement and /or + RF/CCP-Ab)

MTX

UIA that resembles SpA
(primarily lower extremity involvement and seronegative RF/CCP-Ab)

SSZ
EIA Non Pharmacological Management

- NICE QS4
  “Educational and self management activities within 1 month of diagnosis”

EULAR Recommendation no.10 and 12 for EIA
“education programs aimed at coping with pain, maintenance of ability to work and social participation may be used at adjunctive therapy”

BSUH:
Referral to physiotherapy (dynamic exercises) and occupational therapy
EIA: Overall Patient Care

- Smoking cessation
- Dental Care
- Weight control
- Assessment of vaccination status
- Management of comorbidities
- Patient information concerning the disease, its outcome, and its treatment
EIA: Overarching Principle

“management of early inflammatory arthritis should aim at the best care and must be based on a shared decision between the patient and the rheumatologist”

NICE QS5
Monthly treatment escalation until the disease is controlled to an agreed low disease activity target

NICE QS6
If needed patient should receive advice within one working day of contacting the rheumatologist service

NICE QS7
Comprehensive annual review
Resources

• National Clinical Audit for Rheumatoid and Early Inflammatory Arthritis
  www.nras.org.uk

• 2016 update of the EULAR recommendations for the management of early arthritis
  www.ard.bmj.com
QUESTIONS?