Early Inflammatory Arthritis

What GPs need to know
Prevalence of RA in GP populations for Barnsley Practices 2014-15
Objectives

• Increase understanding of EIA
• Explain need for EIA clinics
• Who to refer and how
### 2010 ACR/EULAR Classification Criteria for RA

#### Joint Distribution (0-5)
- 1 large joint: 0
- 2-10 large joints: 1
- 1-3 small joints (large joints not counted): 2
- 4-10 small joints (large joints not counted): 3
- >10 joints (at least one small joint): 5

≥6 = definite RA

#### Serology (0-3)
- Negative RF AND negative ACPA: 0
- Low positive RF OR low positive ACPA: 2
- High positive RF OR high positive ACPA: 3

#### Symptom Duration (0-1)
- <6 weeks: 0
- ≥6 weeks: 1

#### Acute Phase Reactants (0-1)
- Normal CRP AND normal ESR: 0
- Abnormal CRP OR abnormal ESR: 1

What if the score is <6?

Patient might fulfill the criteria...

→ Prospectively over time (cumulatively)

→ Retrospectively if data on all four domains have been adequately recorded in the past

*Nat. Rev. Rheumatol.* doi:10.1038/nrrheum.2014.82

Wichita Cohort - 1978-1992
- consecutive pts., first 2 yrs
- first clinic visit: RA vs undiff polyarthritis dx made
- undiff >> RA

Rheumatoid Arthritis
- 503 patients
- 16% evolved into RA
- Remits in 7.6% (RF-)

Undifferentiated Polyarthritis
- 638 patients
- Complete resolution in 54%

- SLE - 17%
- SpA - 15%
- OA - 11%
- CTD - 7%
- FM - 7%
- Unid - 13%

9.6% (51 pts)
Why is it Important that GPs Recognise Early Inflammatory Arthritis (EIA)?

- DMARDs has been shown to reduce the progression of radiologically evident joint damage and improve long term disability.
- Evidence is accumulating that very early RA (within 12 weeks) may be an immunopathologically distinct phase of disease.
- Treatment during this “window of opportunity” may switch off the disease process.
- The strongest predictor of improvement in disease activity is shorter disease duration at start of treatment.
- < 50% patients diagnosed within 3 months on onset.
RA – Window of Opportunity

The approach: gain time

Joint destruction

Diagnosis

Without treatment

Classical treatment

Treatment with biologicals

Classical treatment

Treatment with biologicals

Window of opportunity: Earlier diagnosis leads to better outcome

Time
NICE Quality Standards For RA

- **QS1**, general practitioner (GP) referral time
  - 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.

- **QS2**, waiting time
  - suspected persistent synovitis should be assessed in a rheumatology service **within 3 weeks of referral**.

- **QS3**, time to DMARD
  - newly diagnosed RA should be offered short-term glucocorticoids (steroids) and a combination of DMARDs by a rheumatology service **within 6 weeks of referral**.
Is Early Referral Happening?

From: Achievement of NICE quality standards for patients with new presentation of inflammatory arthritis: observations from the National Clinical Audit for Rheumatoid and Early Inflammatory Arthritis


Nationally 17%

Barnsley (48 pts) 33%
16 pts
Median 10 days, (2-28)

Figure Legend:
Variability for NICE quality standard 1 across NHS regions and Wales
Red line shows national median waiting time. Boxes show median (blue line) and interquartile range (IQR). Whiskers show 1.5 × IQR and blue dots show outlying values.
Are Patients being Seen?

From: Achievement of NICE quality standards for patients with new presentation of inflammatory arthritis: observations from the National Clinical Audit for Rheumatoid and Early Inflammatory Arthritis


Figure Legend:
Variability in NICE quality standard 2 by NHS region and Wales
The red line represents the overall national median (4 weeks). Boxes show median (blue line) and interquartile range (IQR). Whiskers show 1.5 × IQR and blue dots show outlying values.

Nationally 37%
Barnsley 44%
Delays to Diagnosis – What Can be Done

• PUBLIC HEALTH JOB
  – Educate Patients

• PRIMARY CARE JOB
  – Recognise inflammatory arthritis

• SECONDARY CARE JOB
  – search for a definite diagnosis (eg, RA, PSA, spondyloarthritis)
  – estimate the risk of developing persistent and/or erosive arthritis using clinical, laboratory and radiographic parameters
  – propose an optimal therapeutic strategy

• Dedicated Early Arthritis Clinics
Have you got... The S factor?

**Stiffness**
Early morning joint stiffness lasting over 30 minutes

**Swelling**
Persistent swelling of one joint or more, especially hand joints

**Squeezing**
Squeezing the joints is painful in inflammatory arthritis

This could be inflammatory arthritis
See your doctor now!
Delay can cause long term disability

For further information see [www.arthritisresearchuk.org](http://www.arthritisresearchuk.org)
Difficulties in Diagnosing EIA

Patients can present with a wide range of manifestations

TYPICAL
- Polyarticular onset
- Insidious in 75%
- Initially affects MCP and MTP the small joints of the hands before spreading to the larger joints.

ATYPICAL
- *Polymyalgic onset*
  - Elderly, shoulder stiffness, raised ESR, good response to prednisolone.
- *Palindromic onset*
  - Recurrent episodes of pain, swelling and redness affecting any one joint or several joints at a time, each lasting only a day or two.
  - Symptoms may later become persistent
- *Systemic onset*
  - weight loss, fatigue, depression, or fever or extra-articular feature such as serositis
  - articular manifestations may be absent
Difficulties in Diagnosing RA
Clinical diagnosis of inflammatory arthritis is not always straightforward

- Objective signs may be lacking or have been suppressed by anti-inflammatory medication
- Joint swelling can be difficult to identify in obese patients
- The sensation of joint swelling is common in patients with fibromyalgia
- Osteoarthritis causes morning stiffness
- ESR or CRP are normal in about 60% of patients
- Patients with OA can also get RA
- RhF and ACPA (anti CCP antibodies) maybe false positive or false negative
- Other conditions can present as polyarthritis and mimic RA
EULAR defined characteristics describing arthralgia at risk for RA

These parameters are to be used in patients with arthralgia without clinical arthritis and without other diagnosis or other explanation for the arthralgia.

• History taking:
  – Joint symptoms of recent onset (duration <1 year)
  – Symptoms located in MCP joints
  – Duration of morning stiffness ≥60 min
  – Most severe symptoms present in the early morning
  – Presence of a first-degree relative with RA

• Physical examination:
  – Difficulty with making a fist
  – Positive squeeze test of MCP joints

http://ard.bmj.com/content/early/2016/10/06/annrheumdis-2016-209846.full
The Squeeze Test

**FIGURE 2.** Squeeze test: (a) metacarpophalangeal (MCP), (b) metatarsophalangeal (MTP). The squeeze test is a method of identifying subtle inflammation in the absence of obvious swelling or tenderness of individual MCP or MTP joints. If the squeeze causes undue pain it raises the possibility of underlying joint inflammation.
Other Features Suggestive of Inflammatory Arthritis

• Systemic symptoms such as fatigue or weight loss
• Raised inflammatory markers
• High titre positive rheumatoid factor
• Positive anti CCP
• The presence of extra-articular features of IA eg, psoriasis, dactylitis or uveitis.
ACPA ( anti-CCP antibodies) use in Early Disease

• ~ 58% of anti CCP +ve patients referred to a rheumatological were diagnosed with RA at their first visit.

• Of note, some of those who were anti CCP +ve went on to develop RA.

• Some who are anti CCP +ve never go on to develop RA.

• Cannot exclude a diagnosis of RA on the basis of anti CCP –ve status.
## Barnsley EIA Clinic

- **Appointment Type**: First outpatient
- **Service Location**: Barnsley Hospital
- **Service Provider**: Barnsley Hospital NHS Foundation Trust
- **Specialty**: Rheumatology
- **Directly Bookable**: Yes
- **Age Range Treated**: 18 years and over
- **Gender Treated**: Male and Female
- **Service Transition Date**: -
- **Service End Effective Date**: -
- **Clinic Type**: Inflammatory Arthritis
- **Available on Secondary Care Menu**: Yes

### Request Additional Requirements

- **Conditions Treated**: Inflammatory arthritis/Rheumatoid arthritis/Psoriatic arthritis requiring treatment with DMARDs
- **Procedures Performed**: Joint injections, Depot steroid injections
- **Exclusions**: Symptoms present longer than 12 months, No swollen joints, Established rheumatoid arthritis, Gout, Polymyalgia Rheumatica
- **Suggested Investigations**: FBC, ESR, CRP, Rhe, U+E, LFT, CCP

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This clinic is for suspected inflammatory arthritis patients needing DMARD treatment.

11 weeks is the approximate time that 92% of patients referred to Rheumatology at Barnsley Hospital NHS Foundation Trust waited to start their treatment.
Barnsley EIA Clinic

• Wednesday morning
• Bookable on Choose and Book up to 3 weeks in advance
• One Stop Clinic – assessment, investigation, treatment
• Rapid Bloods / Xray / USS
• IM / oral steroids
• DMARDS
Pathway for GPs

- Take history looking for features of IA
- Do squeeze test

- Check RhF and CCP abs
- Routine bloods and ESR, CRP

- Refer Early Arthritis Clinic
- Don’t treat with steroids
Algorithms based on the 2016 update of the European League Against Rheumatism recommendations for management of early arthritis.

Bernard Combe et al. Ann Rheum Dis
doi:10.1136/annrheumdis-2016-210602

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Any Questions?
Mrs LC

- 25 year old secretary
- 3/12 old baby, breast feeding
- Tingling, numbness in R hand at night, during pregnancy but getting worse
- Aching joints
- Fingers going cold and blue
- Tired and tearful, baby had been unwell
Mrs LC – Further Questions

- Morning Stiffness 30 mins
- MCP joints
- No metatarsalgia
- Similar pains before during 1st 2 months of pregnancy
- Mother had arthritis
- Itchy scalp
Mrs LC - Examination

- Squeeze test positive
- Tinels negative, Phalens positive
- No definite synovitis
- Scaly rash around umbilicus
Mrs LC – Differential Diagnosis?

- Rheumatoid arthritis
- Psoriatic arthritis
- Connective tissue disease
- Viral arthritis
- Carpal tunnel syndrome
What to do next

• Refer to Early Inflammatory Clinic (EIA)
• ESR, CRP, RhF, CCP
• TSH, routine bloods
• ANA
Results

- HB 110, MCV 74, ferritin 400
- TSH N, routine bloods N
- RhF 25, CCP 200
- ANA + speckled pattern
Mrs LC – EIA clinic

• DAS 28 – 5.96
  – S 6 SJ, 2 wrists, T 12, VAS 8, ESR 2
• No other signs CTD
• Xray hands, feet normal
• USS – erosion ulnar head
Mrs LC - Diagnosis

• Seropositive RA
• Poor prognostic features
  – Erosions
  – CCP
  – High disease activity
Mrs LC - Management

- IM depomedrone
- MTX – dose escalated
- HCQ added 1/12
- S/C MTX 4/12

8/12 LDAS
Carpal tunnel symptoms resolved
No steroids
Case Presentation 2
Why we need rheumatologists!

• Mr PC 55 yr old man
• 2\textsuperscript{nd} opinion - worsening joint pain
• Seropositive RA 2015
• HCQ, SZP loose stool
• Refuses methotrexate due to alcohol
• Swollen MCPs - IM depomedrone - M
Examination Findings

- Plethoric
- MCP swelling bilaterally - synovial thickening
- No metatarsalgia
- No rheumatoid nodules
- 2cm hepatomegaly, no spleen
PC Hand
Differential Diagnosis and Investigations
Results

- FBC
- HB 143 – all N
- ESR 2, CRP 2
- LFT N,
- U and E N
- RhF 15
- CCP N
- Glucose N, HbA1C N
Results Iron Studies

- Iron 36 (12-31)
- Transferrin 1.6 (2-3.2)
- TIBC 40 (45-81)
- Transferrin saturation 90% (20-50)
- Ferritin 1806 (22-322)
## Comparing disorders of iron

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<th>Serum Iron</th>
<th>Serum Ferritin</th>
<th>Transferrin Iron Saturation Percentage</th>
<th>Total Iron Binding Capacity (TIBC)</th>
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Iron overload secondary to hereditary haemochromatosis
GP Resources

• BMJ Learning Zone Easily missed - rheumatoid arthritis 30 minute module
  –  http://learning.bmj.com/learning/module-intro/.html?moduleld=10056281&g=w_bmj_learning

• PulseLearning - Key questions on rheumatoid arthritis
  –  http://pulse-learning.co.uk/clinical-modules/musculoskeletal-medicine/key-questions-ra

• ARUK GP AREA

• JOINT ZONE – A study of Rheumatology - interactive case studies
  –  http://www.jointzone.org.uk/
  The approach to the patient presenting with multiple joint pain

• NRAS
  –  http://www.nras.org.uk/publications/category/video
Thank you