DELAYED DIAGNOSIS OF RHEUMATOID ARTHRITIS IN SARAWAK GENERAL HOSPITAL

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Early diagnosis of rheumatoid arthritis

Aim

Methodology

Results

Discussion

Conclusion
RHEUMATOID ARTHRITIS

- Rheumatoid arthritis management:
  - Early diagnosis
  - Patient education
  - Early DMARDS
  - Disease assessment and titration of DMARDS/biologics
  - Prevention of joint damage
  - Screening for cardiovascular risk factors
Early Diagnosis of Rheumatoid Arthritis

- To prevent disease progression, avoid disability, improve overall outcome
- Early treatment with DMARDS
- ‘window of opportunity’
  - Treatment with DMARDS at an early phase to stop the inflammatory process
  - Prevent progression to joint damage
Window of Opportunity

- Treatment within a certain time frame will result in good outcomes - true remission or halting disease progression altogether
- What is the evidence?

- 20 very early RA (median disease duration 3 months) and 20 late early patients (median disease duration 12 months)
- reviewed DAS28 and radiological progression Larsen method
- Even after 3 months of treatment, those who were treated very early had improved outcome, and this is consistent throughout study period (follow up period 36 months)

Impact of Early Treatment in Rheumatoid Arthritis

- Van der Linder et al
  - 1674 patients seen in early arthritis clinic, 598 were diagnosed with RA
  - Patients whom DMARDS were started early (within 12 weeks of symptoms) had less radiographic progression and an increased likelihood to achieve a DMARDS-free remission
  - even after accounting for differences in types of DMARDS and disease activity during follow up
  - Patient characteristics associated with patient delays were female, older age group, symmetric polyarthritis and gradual symptoms
  - Only 31% of patients were seen within 12 weeks of symptoms onset.


Probability of achieving sustained DMARDS-free remission in RA according to the different categories of delay in assessment by a rheumatologist
Evaluating relationships between symptom duration and persistence of rheumatoid arthritis: does a window of opportunity exist? Results on the Leiden Early Arthritis Clinic and ESPOIR cohorts

- **Aim**: Is to evaluate the shape of the relationship between the symptom duration at treatment initiation and the risk of persistent course of RA.
- **Patients**: 738 patients from Leiden cohort and 533 patients from ESPOIR cohort.
- **Outcome**: DMARD-free sustained remission.

**Results:**
- DMARD-free sustained remission was achieved in 11.5% in Leiden and 5.4% in ESPOIR.
- Hazard ratio curve was not linear and the steepness changed at a point in time, after a certain symptom duration.

**Conclusion:**
- Hazard ratio on DMARD-free remission decreased considerably before a certain time point, suggesting that there is a confined period in which RA is more susceptible to treatment.

Delayed Presentation to Rheumatology

- Important to examine the delays that can occur in presentation to rheumatology
  - Patient delay: symptoms mild-moderate only, thinking symptoms will resolve, self treatment with medications or traditional preparations
  - Primary care delay: not recognizing the features of rheumatoid arthritis, presentation of inflammatory arthritis very acutely, different primary care providers seen
  - Rheumatology delay: unable to slot into earlier clinic as full appointments
  - Delay in starting DMARDs: undifferentiated disease at onset
Aim

- To examine the delays in presentation to rheumatology among the newly diagnosed rheumatoid arthritis in Rheumatology Clinic Sarawak General Hospital
Methods

- Audit
- Consecutive patients who first presented to Rheumatology Clinic Sarawak General Hospital for rheumatoid arthritis. Patients already treated for rheumatoid arthritis in other centres not included.
- All patients fulfilled the 2010 ACR & EULAR Rheumatoid Arthritis Classification Criteria
- Data collection period: 2 Jan 2015 until 5 Nov 2015
- Data collected:
  - Demographics
  - Initial disease presentation, referral to primary care (Klinik kesihatan, GP), referral to rheumatology, rheumatology clinic appointment, starting DMARDS timing noted
- Data analysis with SPSS
Delay 1: Patient delay
From symptom onset to first presentation to primary care

Delay 2: Primary care delay
From presentation to primary care to referral to rheumatologist

Delay 3: Rheumatology delay
From referral to rheumatologist to rheumatology appointment

Delay 4: DMARDS delay
From rheumatology appointment to starting DMARDS
## Results

<table>
<thead>
<tr>
<th>Demographics N=19 patients</th>
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<tbody>
<tr>
<td>Mean age</td>
<td>58.3 years (SD ± 8.3)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Female= 13 (68%)</td>
<td>Male= 6 (32%)</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
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<tr>
<td>Malay=6 (31.6%)</td>
<td>Chinese= 3 (15.8%)</td>
</tr>
<tr>
<td>Iban=7 (36.8%)</td>
<td>Bidayuh= 3 (15.8%)</td>
</tr>
<tr>
<td>Smoking history</td>
<td></td>
</tr>
<tr>
<td>Non smoker= 14 (73.7%)</td>
<td>Current smoker= 3 (15.8%)</td>
</tr>
<tr>
<td>Ex smoker= 2 (10.5%)</td>
<td></td>
</tr>
<tr>
<td>Rheumatoid Factor</td>
<td>Positive = 19 (100%)</td>
</tr>
</tbody>
</table>
Results: Delays in RA diagnosis and DMARDS

Patients treated within 12 weeks of symptoms= 5/19 (26.3 %)

<table>
<thead>
<tr>
<th>Type of Delay</th>
<th>Median (weeks)</th>
<th>Minimum (weeks)</th>
<th>Maximum (weeks)</th>
<th>Interquartile range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptom onset to primary care presentation</td>
<td>8</td>
<td>2</td>
<td>512</td>
<td>48</td>
</tr>
<tr>
<td>Primary care to rheumatologist referral</td>
<td>8</td>
<td>2</td>
<td>324</td>
<td>21</td>
</tr>
<tr>
<td>Rheumatologist referral to rheumatology appointment</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Rheumatology appointment to starting DMARDS</td>
<td>0</td>
<td>0</td>
<td>16</td>
<td>4</td>
</tr>
<tr>
<td>Total delay: from symptom onset to starting DMARDS</td>
<td>26</td>
<td>7</td>
<td>516</td>
<td>83</td>
</tr>
</tbody>
</table>
Discussion

- Other similar studies reviewing diagnosis delays for rheumatoid arthritis
- How do we compare?
Birmingham, United Kingdom. Population 400,000.

Early arthritis clinic already established with good relationship with the local GPs, inflammatory arthritis cases duration <12 weeks are seen within 2 weeks.


The median delay from the onset of symptoms until assessment by a rheumatologist is 23 weeks (IQR 12-54 weeks).

Only 30% of patients are seen by a rheumatologist within 12 weeks of symptoms.

The median delay from onset of symptoms until assessment by primary care is 12 weeks (IQR 4-28 weeks).

Small proportion of delay from primary care assessment to referral to rheumatologist – median is 2 weeks (IQR <1-10 weeks).

Delay after primary care referral to being seen by rheumatologist- median is 3 weeks (IQR 2-8 weeks).

For 96 patients (57%) more than half of the overall delay is accounted for delay in assessment by primary care ie late presentation to primary care, either late presentation to GP or late appointment to see the GP.

Kumar K, Daley E, Carruthers DM et al. Delay in presentation to primary care physicians is the main reason why patients with rheumatoid arthritis are seen late by rheumatologists. Rheumatology 2007; 46: 1438-1440.
Greater Toronto Area, Canada. Population 5 million. 15 rheumatologist practice enrolled.

- 30 patients randomly selected from the 15 rheumatologist practices from Jan 2003 until May 2006
- 204 patients included.
- 46 patients (22.6%) were treated with a DMARD within 3 months of symptom onset and 97 (47.6%) were treated with 6 months of symptom onset.
- Median time from symptoms onset to DMARD= 6.35 months (IQR 3.29-12.01)
- Median time from symptom onset to rheumatologist referral=3.03 months (IQR 1.02-8.04)
- Median time from symptom onset to MD visit= 0 months (IQR 2.01)
- Median time from first MD visit to rheumatology referral= 2.01 months (IQR 7.01)

Factors causing delay in presentation to rheumatologists

- Belief that symptoms are temporary
- Traditional treatments
- Able to bear the pain
- Presented to KK and treated as gout/ OA/ musculoskeletal pain either by MO or Mas
- Presentation to different GPs
- Referred to Orthopaedics first
What can we do better?

- Greater awareness
  - Public- leaflets, public talks
  - Primary care physicians- CME on inflammatory arthritis, recommendation for early referral to rheumatologist (>3 swollen joints, MCP/MTP involvement, EMS > 30 min)*

- Early arthritis clinics
  - Will require adequate numbers of rheumatologists/ supporting staff

Strategies to increase early rheumatoid arthritis diagnosis

- Villeneuve E et al performed a literature review to identify strategies addressing the delays in RA diagnosis and their evidence
- Identified 3 areas:
  - Symptoms onset to primary care: community case-finding strategies- using questionnaire and autoantibody testing. Websites on information on inflammatory arthritis but were of varying quality and insufficient to aid early referral. Evidence not highly supportive
  - Primary care level: education programmes, patient self administered questionnaires with potential inflammatory arthritis for referral to rheumatologist, guidelines for referral of inflammatory arthritis to rheumatologist
  - Early arthritis clinics, triage systems to prioritise clinic appointments for inflammatory arthritis, rapid access systems. Good evidence to support effectiveness of strategy.

Conclusion

- The delays in presentation of newly diagnosed rheumatoid arthritis is from the patient and the primary care
- We need to implement effective strategies to promote early diagnosis of rheumatoid arthritis