

The early presentation of management of rheumatoid arthritis in primary care

Amanda Nicholson^{a@}, KA Davies^b, Helen Smith^a, Greta Rait^c, Rosemary Tate^a, Jackie Cassell^a.

Background

- Recent NICE guidance¹ has emphasised the importance of early recognition and referral of patients with inflammatory arthritis so that disease modifying treatment can be promptly initiated.
- The timely identification of such patients, given the large numbers consulting with musculoskeletal complaints, is a considerable challenge and descriptive data from primary care are sparse.
- Our objective was to examine GP records from three years before to 14 days after the first coded diagnosis of rheumatoid arthritis in order to describe the early course and management of the disease.

Results

- 5,843 new cases of RA were included in analyses, 1,831 men and 4,012 women.
- Men were older than women at the time of diagnosis. The median age of men at diagnosis was 63 years [inter-quartile range, IQR 51-73] and for women median age was 60 years [IQR 50-71], $p < 0.001$ for age difference.
- The most common marker was a prescription for a non-steroidal anti-inflammatory drug (NSAID) present in 79% of patients.
- 66% of patients had evidence of a non-specific investigation such as CRP or autoantibody level, 63% had evidence of a rheumatoid factor test.
- There were codes suggestive of referral to rheumatology services in 42% of patients.
- Codes for specific clinical findings related to an inflammatory arthritis were uncommon, present in only 15% of patients. Likewise synovitis codes were present in only 4%.
- 34% of patients had a prescription for a disease-modifying anti-rheumatic drug and in 14% of patients this had occurred at least 6 months before the diagnosis of RA was coded.
- The prevalence of markers was similar in men and women.

Prevalence of codes for symptoms, diagnosis and management in relation to first code for rheumatoid arthritis diagnosis					
	Anytime	14 days after to < 1 mnth before	1-3 mnths before	3-6 mnths before	6 mnths- 3 yrs before
Non-specific inflammatory arthritis diagnosis or signs					
n	867	209	143	124	391
%	14.8	3.6	2.5	2.1	6.7
Other named inflammatory arthritis					
n	410	32	32	49	297
%	7.0	0.6	0.6	0.8	5.1
Referral to rheumatology services					
n	2,480	725	467	306	982
%	42.4	12.4	8.0	5.2	16.8
RhF test – regardless of result					
n	3,674	1326	657	488	1,203
%	62.9	22.7	11.2	8.4	20.6
Synovitis					
n	241	46	44	33	118
%	4.1	0.8	0.8	0.6	2
DMARD prescription – excluding oral steroids					
n	1,962	842	154	123	843
%	33.6	14.4	2.6	2.1	14.4
Non-specific diagnosis					
n	1,053	200	224	151	478
%	18.0	3.4	3.8	2.6	8.2
Other symptoms					
n	3,823	363	440	421	2,599
%	65.4	6.2	7.5	7.2	44.5
Non-specific investigations – such as CRP, auto-antibodies					
n	3,861	844	611	519	1,887
%	66.1	14.4	10.5	8.9	32.3
NSAID prescription					
n	4,631	385	390	373	3,483
%	79.3	6.6	6.7	6.4	59.6

Methods

Design: a retrospective cohort study

Setting: 460 GP practices in the UK contributing to the General Practice Research Database (GPRD)

Population: Men and women aged 30 years and over with first coded diagnosis of rheumatoid arthritis (RA) between 1/1/2005 and 31/12/2008

Outcome measures: Using coded data, we developed markers for provisional diagnosis, suggestive symptoms or signs, referral, investigation and treatment.

Analysis: For each marker, any relevant code in any GPRD record table resulted in a positive marker. The earliest code within any marker group was used to determine intervals.

Ethics: The study was approved by the MHRA Independent Scientific Advisory Committee (protocol number 09_033R)

Outcome measures – code groups

- Rheumatoid arthritis or juvenile inflammatory arthritis diagnosis
- Unnamed inflammatory arthritis or suggestive symptom or signs e.g. seronegative polyarthritis, polyarthropathy NEC
- Other named inflammatory diagnosis e.g. gout / psoriatic arthropathy
- Synovitis
- Other non-specific arthritis diagnosis e.g. arthritis, acute arthritis
- Other symptoms and signs e.g. pain in joint -arthralgia, arthralgia of hand
- Non-specific investigations e.g. C-reactive protein, auto-antibodies
- Rheumatoid factor test
- Referral to rheumatologist
- Prescription for Disease Modifying Anti-Rheumatic Drug (DMARD) including methotrexate, penicillamine, azathioprine but excluding oral steroids
- Prescription for Non-Steroidal Anti-Inflammatory Drug (NSAID)

Discussion

- Our study population provides one of the largest studies of the early presentation of RA and crucially adds a primary care perspective.
- Specific signs and symptoms are inadequately captured by codes, with only 14% having codes that indicate symptoms of an inflammatory arthritis.
- Our results suggest that the diagnosis may have been known about for some time before it was coded. For example 14% of cases received a prescription for a DMARD more than 6 months before diagnosis. Similarly 6 months before diagnoses 20% of patients had a rheumatoid factor test and 17% had a rheumatology referral.
- These results show that coded data alone yields insufficient detail to describe the early presentation and management of rheumatoid arthritis. With coded data alone it is not possible to reliably pinpoint the first presentations of the disease.
- The delays we found to a coded diagnosis may indicate diagnostic uncertainty or delay in coding a known diagnosis. It is not possible to separate these two processes in these data.
- Other authors have highlighted deficits in the use of coded data^{2,3}

Conclusions

- These findings emphasise the need for research using electronic health records to go beyond simple use of diagnostic codes and adopt more sophisticated strategies for case-finding, including the use of free text.
- This has implications for health service planning based on coded data.
- Methods to allow access to information in text are urgently needed.

References

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Affiliations

a Division of Primary Care and Public Health, Brighton & Sussex Medical School
 b Division of Medicine, Brighton & Sussex Medical School
 c MRC General Practice Research Framework
 @ AN is now with the Cardiff Research Consortium.
 Contact : Professor Jackie Cassell. Email: j.cassell@bsms.ac.uk



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