Section: Geriatrics

Original Research Article

CLINICAL SPECTRUM OF POLYARTHRITIS AMONG OLDER ADULTS: A HOSPITAL-BASED OBSERVATIONAL STUDY

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ABSTRACT

Background: Polyarticular joint pain in older adults may arise from degenerative, inflammatory, crystal-associated, or other rheumatic disorders. Clinical features can overlap, particularly in the presence of multimorbidity. The objective is to describe the demographic profile, diagnostic spectrum, symptom duration, disease course, joint distribution and symmetry, selected extra-articular findings, comorbidities, and laboratory findings among older adults presenting with multiple joint pains.

Materials and Methods: This hospital-based observational study was conducted at a tertiary-care geriatric service in Navi Mumbai, India, from July 2018 to July 2020. Sixty patients aged 60 years or older presenting with multiple joint pains were assessed using clinical history, examination, laboratory investigations, and imaging when indicated. Findings were summarised descriptively.

Results: Of 60 participants, 47 (78.33%) were women and 13 (21.67%) were men. Thirty (50.0%) were aged 60–69 years and 50 (83.33%) had symptoms lasting more than six weeks. Osteoarthritis was the most frequent diagnosis (29, 48.33%), followed by rheumatoid arthritis (19, 31.67%), spondyloarthropathy (7, 11.67%), psoriatic arthritis (3, 5.00%), and gout (2, 3.33%). Disease course was intermittent in 32 (53.33%), migratory in 18 (30.00%), and additive in 10 (16.67%). Bilateral joint involvement was common in osteoarthritis, rheumatoid arthritis, and spondyloarthropathy.

Conclusion: Osteoarthritis and rheumatoid arthritis were the most frequently recorded diagnoses in this tertiary-care cohort, and chronic symptoms predominated. Structured assessment of symptom chronology, joint distribution, symmetry, disease course, extra-articular features, and appropriate investigations may help characterise polyarticular presentations in older adults.

Keywords: Aged; Arthritis; Polyarthritis; Osteoarthritis; Rheumatoid Arthritis.

INTRODUCTION

Musculoskeletal disorders are important contributors to pain, reduced mobility, functional limitation, and loss of independence in later life. Their impact may be amplified by multimorbidity and age-related changes in clinical presentation. Arthritis is not a single disease entity; it includes conditions with different mechanisms, prognoses, and treatment requirements.[1,2]

Pain affecting multiple joints creates a broad differential diagnosis that includes degenerative disease, inflammatory arthritis, crystal-associated disease, infection, and systemic rheumatic disorders. The chronology of symptoms, inflammatory features, joint distribution and symmetry, extra-articular manifestations, and disease course can help guide clinical assessment.[3,4] In older adults, degenerative and inflammatory conditions may coexist, making it important not to attribute all musculoskeletal symptoms to age-related osteoarthritis.

Rheumatoid arthritis may present in later life with clinical features that differ from younger-onset disease, while osteoarthritis remains a major cause of pain and disability.[5,7] Spondyloarthropathy, psoriatic arthritis, and gout also require consideration because their investigation and management

differ.[8,10] A systematic clinical assessment is therefore important in geriatric practice.

This study describes the demographic profile and clinical and diagnostic spectrum of older adults presenting with multiple joint pains at a tertiary-care geriatric service. The findings are descriptive and are intended to characterise the patients seen in this clinical setting, not to estimate community prevalence.

MATERIALS AND METHODS

Study design and setting: This hospital-based observational study was conducted in the Department of Geriatrics, MGM Medical College and Hospital, Navi Mumbai, Maharashtra, India, from July 2018 to July 2020. The source dissertation uses both prospective-observational and cross-sectional terminology; the present manuscript therefore retains the broader description "hospital-based observational study" pending confirmation against the original protocol.

Participants: Patients aged 60 years or older, of either sex, who presented with multiple joint pains were eligible. Exclusion criteria were age below 60 years, admission to an intensive-care unit, unwillingness to participate, and joint trauma. A total of 60 participants were included.

Clinical assessment and investigations: The study proforma recorded symptom chronology; pain, swelling, erythema, warmth and restriction of movement; distribution and symmetry of joint involvement; axial involvement; extra-articular manifestations; disease course; and comorbidities. The joints assessed included the shoulder, elbow, wrist, proximal and distal interphalangeal joints, hip, knee, ankle, and talar joints.

Investigations included complete blood count, erythrocyte sedimentation rate (ESR), liver and renal function tests, fasting and post-prandial glucose, calcium, uric acid, chest radiography, joint radiographs, electrocardiography, rheumatoid factor, anti-cyclic citrullinated peptide antibodies, and antinuclear antibody testing when indicated. Magnetic resonance imaging was performed when clinically required. Diagnostic categories were those recorded in the source study.

Statistical analysis: Data are presented using counts, percentages, and reported means. The source protocol mentioned Student's t-test and chi-square testing; however, this manuscript emphasises descriptive findings because some inferential outputs in the source dissertation require verification against the raw dataset. No inferential conclusions are drawn from those outputs.

Ethics: The study was reviewed by the MGM Medical College–Institutional Ethics Committee (reference N-EC/2019/SC/03/52). The source study documents informed consent and maintenance of participant confidentiality. The authors should ensure that the ethics approval letter and consent records are available if requested by the journal.

RESULTS

Demographic profile: Sixty patients were included. There were 47 women (78.33%) and 13 men (21.67%). Thirty participants (50.00%) were aged 60–69 years, 24 (40.00%) were aged 70–79 years, four (6.67%) were aged 80–89 years, and two (3.33%) were older than 90 years [Table 1].

Symptom duration and diagnostic spectrum: Fifty participants (83.33%) had symptoms lasting more than six weeks, while 10 (16.67%) had symptoms lasting six weeks or less. Osteoarthritis was the most frequently recorded diagnosis (29/60; 48.33%), followed by rheumatoid arthritis (19/60; 31.67%), spondyloarthropathy (7/60; 11.67%), psoriatic arthritis (3/60; 5.00%), and gout (2/60; 3.33%). Osteoarthritis was predominantly chronic (22/29; 75.86%). All participants with rheumatoid arthritis, psoriatic arthritis, and gout had chronic symptoms. Three of the seven participants with spondyloarthropathy had acute symptoms [Table 2].

Disease course and joint distribution: Disease course was intermittent in 32 participants (53.33%), migratory in 18 (30.00%), and additive in 10 (16.67%). Bilateral involvement was recorded in 17 of 29 participants with osteoarthritis, 17 of 19 with rheumatoid arthritis, and six of seven with spondyloarthropathy. All three participants with psoriatic arthritis and both participants with gout had unilateral involvement. The reported mean number of joints involved ranged from 8.00 in gout to 36.66 in psoriatic arthritis [Table 3]. These means should be checked against the original master chart before submission, particularly because the diagnostic subgroups are small.

Clinical features, comorbidities, and laboratory findings: Joint pain was the most frequently reported clinical feature (66.6%), followed by restriction of movement (20.0%) and joint swelling (16.6%). Erythema and warmth were each reported in 5.0%. Extra-articular observations included proximal muscle weakness in seven participants, skin or nail lesions in five, and oral ulcers in two.

Diabetes mellitus was reported in 21.6% of participants and hypertension in 26.66%. Other comorbidities were reported in 23.33%, while 56.65% were recorded as having no comorbidity. These percentages and categories should be checked against the source chart because the categories may overlap and the reported percentages may not sum to 100%.

Reported mean haemoglobin values for rheumatoid arthritis, osteoarthritis, spondyloarthropathy, gout, and psoriatic arthritis were 11.78, 11.47, 13.45, 12.80, and 16.40 g/dL, respectively. The corresponding mean ESR values were 49.50, 45.41, 38.00, 27.50, and 44.00 mm/h. Reported mean C-reactive protein (CRP) values were 25.34, 17.65, 13.34, 8.36, and 8.20, respectively; the units for CRP were not clearly documented in the source material and must be confirmed before submission [Table 4].

Table 1: Demographic characteristics of participants (N = 60)

Characteristic	n	%
Total	60	100.00
Male	13	21.67
Female	47	78.33
Age 60–69 years	30	50.00
Age 70–79 years	24	40.00
Age 80–89 years	4	6.67
Age >90 years	2	3.33

Table 2: Diagnosis and symptom duration

Diagnosis	Total n (%)	Acute n	Chronic n
Osteoarthritis	29 (48.33)	7	22
Rheumatoid arthritis	19 (31.67)	0	19
Spondyloarthropathy	7 (11.67)	3	4
Psoriatic arthritis	3 (5.00)	0	3
Gout	2 (3.33)	0	2
Total	60 (100.00)	10	50

Table 3: Disease course and joint involvement by diagnosis

Diagnosis	Unilateral n	Bilateral n	Mean joints involved (reported)
Osteoarthritis	12	17	14.34
Rheumatoid arthritis	2	17	20.68
Spondyloarthropathy	1	6	11.71
Psoriatic arthritis	3	0	36.66
Gout	2	0	8.00

Table 4: Selected clinical and laboratory findings

Parameter	Reported finding
Joint pain	66.6%
Restriction of movement	20.0%
Joint swelling	16.6%
Erythema	5.0%
Warmth	5.0%
Proximal muscle weakness	7 participants
Skin or nail lesions	5 participants
Oral ulcers	2 participants
Diabetes mellitus	21.6%
Hypertension	26.66%
Other comorbidities	23.33%
No comorbidity	56.65%
Mean Hb (RA/OA/SpA/gout/PsA), g/dL	11.78 / 11.47 / 13.45 / 12.80 / 16.40
Mean ESR (RA/OA/SpA/gout/PsA), mm/h	49.50 / 45.41 / 38.00 / 27.50 / 44.00
Mean CRP (RA/OA/SpA/gout/PsA)	25.34 / 17.65 / 13.34 / 8.36 / 8.20 (units to verify)

Editorial note: Verify all percentages and subgroup means against the original master chart. Confirm CRP units and whether comorbidity categories overlap before submission.

DISCUSSION

In this tertiary-care geriatric cohort, osteoarthritis and rheumatoid arthritis accounted for the largest proportions of recorded diagnoses among older adults presenting with multiple joint pains. Chronic symptoms were common. These findings describe the case mix in a specialist hospital service and should not be interpreted as estimates of the prevalence of these disorders in the wider community.

The predominance of osteoarthritis is clinically plausible in an older population, but the presence of rheumatoid arthritis in nearly one-third of this cohort highlights the importance of considering inflammatory disease rather than assuming that joint pain in later life is degenerative. A careful history and examination remain central to differentiating causes of polyarticular symptoms. Symptom duration, pattern of onset, distribution and symmetry, inflammatory signs, extra-articular findings, and selected investigations should be interpreted together rather than in isolation.[3,4]

Bilateral involvement was frequent in osteoarthritis, rheumatoid arthritis, and spondyloarthropathy in this sample. Conversely, unilateral involvement was recorded in the small gout and psoriatic arthritis subgroups. These subgroup observations are descriptive only and are too limited to support generalisations. Clinical patterns vary, and the small numbers in these categories make the estimates unstable.

The reported ESR and CRP means were highest in the rheumatoid arthritis group. Inflammatory markers can support the clinical assessment, but they are nonspecific and should not be used alone to establish or exclude a diagnosis. Interpretation is also affected by age, comorbid conditions, and other concurrent illnesses. The CRP units and several summary values

should be checked against the original records before the final manuscript is submitted.

The findings have practical relevance for geriatric services and clinicians assessing older adults with persistent joint symptoms. A structured assessment can reduce the risk of prematurely attributing all symptoms to osteoarthritis and may help identify patients who need targeted investigations or rheumatology referral. Assessment should also consider the effect of pain and restricted movement on mobility, activities of daily living, falls risk, and independence.

Limitations: This study was conducted at a single tertiary-care centre and included only 60 participants. Referral and selection patterns may have influenced the diagnostic distribution. There was no population denominator, so prevalence and incidence cannot be estimated. The gout and psoriatic arthritis groups were particularly small. Standardised measures of disease activity, physical function, quality of life, and frailty were not reported. In addition, some statistical outputs and laboratory units in the source dissertation require verification against the original dataset. These limitations mean that the findings should be interpreted as descriptive clinical observations.

CONCLUSION

Osteoarthritis and rheumatoid arthritis were the most frequently recorded diagnoses among older adults presenting with multiple joint pains at this tertiary geriatric service, and symptoms lasting more than six weeks were common. Joint distribution, symmetry, disease course, extra-articular features, and laboratory findings contributed to the clinical description. A structured assessment is important because degenerative and inflammatory conditions can present with overlapping symptoms in later life. Larger, prospectively defined studies using verified diagnostic criteria and standardised functional measures are needed to build on these observations.

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REFERENCES

1. Hootman JM, Helmick CG, Brady TJ. A public health approach to addressing arthritis in older adults: the most common cause of disability. Am J Public Health. 2012;102:426–433. doi:10.2105/AJPH.2011.300423.
2. United Nations, Department of Economic and Social Affairs, Population Division. World Population Ageing 2019. New York: United Nations; 2020.
3. Ritchie AM, Francis ML. Diagnostic approach to polyarticular joint pain. Am Fam Physician. 2003;68:1151–1160.
4. Alpay-Kanitez N, Celik S, Bes C. Polyarthritis and its differential diagnosis. Eur J Rheumatol. 2019;6:167–173. doi:10.5152/eurjrheum.2019.19145.
5. Kobak S, Bes C. An autumn tale: geriatric rheumatoid arthritis. Ther Adv Musculoskelet Dis. 2018;10:3–11. doi:10.1177/1759720X17740075.
6. Pawłowska J, Smoleńska Z, Daca A, Witkowski JM, Bryl E. Older age of rheumatoid arthritis onset is associated with higher activation status of peripheral blood CD4+ T cells and disease activity. Clin Exp Immunol. 2011;163:157–164. doi:10.1111/j.1365-2249.2010.04294.x.
7. Pal CP, Singh P, Chaturvedi S, Pruthi KK, Vij A. Epidemiology of knee osteoarthritis in India and related factors. Indian J Orthop. 2016;50:518–522. doi:10.4103/0019-5413.189608.
8. Roddy E, Zhang W, Doherty M. Are joints affected by gout also affected by osteoarthritis? Ann Rheum Dis. 2007;66:1374–1377. doi:10.1136/ard.2006.063768.
9. Han C, Robinson DW Jr, Hackett MV, Paramore LC, Fraeman KH, Bala MV. Cardiovascular disease and risk factors in patients with rheumatoid arthritis, psoriatic arthritis, and ankylosing spondylitis. J Rheumatol. 2006;33:2167–2172.
10. Singh S, Mehra S. Approach to polyarthritis. Indian J Pediatr. 2010;77:1005–1010. doi:10.1007/s12098-010-0163-5.
11. Pujalte GGA, Albano-Aluquin SA. Differential diagnosis of polyarticular arthritis. Am Fam Physician. 2015;92:35–41.
12. Marks M, Marks JL. Viral arthritis. Clin Med (Lond). 2016;16:129–134. doi:10.7861/clinmedicine.16-2-129.
13. World Health Organization. Musculoskeletal health. Geneva: World Health Organization; 2022.
14. Aletaha D, Neogi T, Silman AJ, et al. 2010 rheumatoid arthritis classification criteria: an American College of Rheumatology/European League Against Rheumatism collaborative initiative. Arthritis Rheum. 2010;62:2569–2581. doi:10.1002/art.27584.
15. Altman R, Asch E, Bloch D, et al. Development of criteria for the classification and reporting of osteoarthritis: classification of osteoarthritis of the knee. Arthritis Rheum. 1986;29:1039–1049. doi:10.1002/art.1780290816.