Etiology of Polyarthritis in Elderly Patients in the Rheumatology Department of the Teaching Hospital "Point G"

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ABSTRACT

Introduction: *Polyarthritis in the elderly is an inflammatory condition affecting more than three joints in a person of 65 years or older. Diagnosing polyarthritis at this age is challenging due to the frequent presence of associated conditions, the often-misleading nature of late-onset rheumatism, and the existence of joint diseases specific to the elderly. The purpose of this retrospective study was to determine the cause of polyarthritis in elderly patients in the Rheumatology Department of the Teaching Hospital "Point G".*

Patients and Methods: *This was a single-center retrospective study over 17 years (from January 1, 2005, to December 31, 2021) in the Rheumatology Department of the Teaching Hospital "Point G". It included records of patients of 65 years or older seen in outpatient clinic with polyarthritis, regardless of the cause.*

Results: *We identified 66 cases of polyarthritis among 3,876 elderly patients seen in clinic, accounting for 1.7% of the study population. The sex ratio was 0.8 in favor of females. A wide range of symptoms were found, with*

pain as the main symptom. It was inflammatory in 65.2% of patients, with joint swelling in 98.5%. The most common extra-articular signs were hematological, with leukopenia in 87.8% of patients. Sedimentation rate (SR) was accelerated in 69.7% of cases, and C-reactive protein (CRP) was positive in 68.2% of patients. Rheumatoid arthritis (RA) was the most frequent condition (53% of cases), followed by gout (13.6%). Hypertension was the most common comorbidity, found in 62.2% of cases. Analgesics were used in 87.9% of patients. Methotrexate in monotherapy was the most used background therapy (62.1% of patients).

Conclusion: *Polyarthritis in the elderly is not uncommon in rheumatology clinic, and is dominated by RA and gout. The clinical characteristics depending on the etiology differ a little from classic cases reported elsewhere.*

Keywords
Elderly Polyarthritis, Rheumatology, Bamako.

Introduction
According to the World Health Organization (WHO), an elderly person is someone of 65 years or older. Polyarthritis in the elderly is an inflammatory condition affecting more than three (03) joints in a person of 65 years or older [1]. A social definition uses the retirement age, which ranges from 55 to 60 years [2]. In Mali, the 2020 general population census counted 20,250,834 inhabitants. The elderly represented 25% of the total population, with 11% men and 14% women, resulting in a sex ratio of 0.85 [3]. Locomotor diseases in the elderly are the main cause of functional disability in developed countries [4]. Diagnosing polyarthritis at this age is challenging due to the frequent presence of associated conditions, the often-misleading nature of late-onset rheumatism, and the existence of joint diseases specific to the elderly [2]. Although rheumatoid arthritis is predominant at this age, an infectious cause should be immediately considered in the presence of febrile polyarthritis [2]. A cross-sectional survey published in 2014 in France showed that Rheumatoid Arthritis and Polymyalgia Rheumatica are the most frequently diagnosed rheumatisms after 60 years of age [5]. Kamissoko et al. in Guinea reported forty-five cases of inflammatory rheumatism and connective tissue disease in the elderly [6]. In Ivory Coast, a study examining osteoarticular conditions in 157 elderly Black Africans found that 28.9% of the cases were attributed to paraneoplastic rheumatism [7]. However, the progression of the disease in our specific context depends on early management based on the underlying causes and comorbidities. The absence of data on the causes of polyarthritis in the elderly in Bamako prompted this study.

Objective
To determine the etiology of polyarthritis in elderly patients in the Rheumatology Department of the Teaching Hospital "Point G".

Patients and Methods
This retrospective study was conducted at the Rheumatology Department of the Teaching Hospital "Point G" in Bamako, Mali, spanning from January 1, 2005, to December 31, 2021. It encompassed all patients seen in our outpatient clinic for polyarthritis among patients of 65 years or older, regardless of the underlying cause. Anonymous survey forms based on patient records were used for data collection utilized. Items covered sociodemographic data (age, sex, socioeconomic status), clinical features (medical history, comorbidities, pain characteristics, body mass index), laboratory findings (biological and radiographic), and treatment information. Data entry was conducted using Microsoft Suite, and analysis was performed with SPSS Version 20. Confidentiality was maintained through restricted data access and anonymization of survey forms.

Results
We identified 66 cases of polyarthritis among 3,876 elderly patients seen in our outpatient clinic during the study period, resulting in a frequency of 1.7%. The 65-69 age group was the most represented, with 43.9% of cases (Figure 1). The mean age was 71 ± 5.4 years, with extremes of 65 and 87 years. Female patients represented 56% (n=37) of cases, with 42.4% being housewives before retirement. High blood pressure (HBP) was found in 53.03% (n=35) of patients, and diabetes in 7.5%. Polyarthralgia was the main reason for consultation, reported by 57.6% of patients, with inflammatory pain in 65.2% of cases and joint swelling in 98.5%. Joint deformity was found in 44% of patients. Scalp alopecia was the most common skin condition, with 70.9% of cases. A dry syndrome was found in 13.6% of patients. The predominant non-articular manifestations were hematological, specifically leukopenia observed in 87.8% of patients. Additionally, inflammatory anemia was present in 53% of patients. The sedimentation rate was elevated in 69.7% of patients, and CRP was positive in 68.2% of cases. Hyperuricemia was detected in 45.5% of patients, while renal function impairment was observed in 90.9% of cases. Rheumatoid factors and Anti-CCP antibodies were the most detected, with frequencies of 42.4% and 36.4%, respectively (Table 1). Radiographic abnormalities were identified in 46.96% of patients. Rheumatoid arthritis (RA) and gout accounted for the majority of cases, with prevalences of 53% and 13.6%, respectively." (Table 2).

There was a significant relationship (p=0.003) between gout diagnosis and renal signs. However, there was no significant relationship between the diagnosis and hematological manifestations (p = 0.855). The average time to diagnosis was 12 months for 44% of patients. Analgesic treatment was prescribed for 87.4% of patients, combined with low-dose corticosteroids for 80.3% of patients. Methotrexate monotherapy was the most used background treatment, with 62.1% (Table 3).
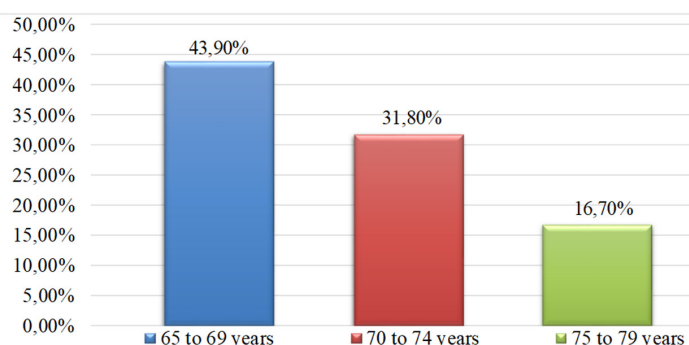
Figure 1: Distribution by age groups.

Table 1: Distribution of patients according to the antibodies found.

Immunological data	Individuals (n)	Percentage (%)
Positive rheumatoid factors	28	42,4
Positive anti-CCP antibodies	24	36,4
Positive ANA SCREEN	10	15,2
Positive anti-native DNA	4	6,1
Positive anti-Sm	2	3,0

Table 2: Distribution of patients according to the final diagnosis.

Diagnosis	Individuals (n)	Percentage (%)
Rheumatoid arthritis	35	53,0
Gout	9	13,6
RA + Gout	8	12,2
RHUPUS	4	6,2
Systemic lupus erythematosus	3	4,5
Systemic sclerosis	1	1,5
Sharp Syndrome	1	1,5
Undifferentiated arthritis	1	1,5
Lupus + prostate cancer	1	1,5
Scleroderma + Gout	1	1,5
Adult-onset Still's disease	1	1,5
Gout + Prostate adenoma	1	1,5
Total	**66**	**100,0**

Table 3: Distribution of patients according to the background treatment initiated.

Background treatment	Individuals (n)	Percentage (%)
Methotrexate	41	62,1
Allopurinol	9	13,6
Methotrexate + Allopurinol	7	10,6
Synthetic antimalarials	4	6,1
slow-acting antirheumatic	3	4,6
Methotrexate + Synthetic antimalarials	1	1,5
Salazopyrine	1	1,5
Total	**66**	**100,0**

Discussion

We identified 66 cases of polyarthritis among 3876 elderly patients seen in consultation, representing a frequency of 1.7%. This hospital frequency is close to that reported for RIC at CHU Point G by Zouna (2.05%) and Traoré (3.12%) [8,9]. The 65-69 age group was the most represented, with 43.9% of cases. The mean age was 71 ± 5.4 years, with extremes of 65 and 87 years, higher than that reported by Kamissoko et al. (67.63 ± 6.71) [6]. This difference is related to the use of the social definition rather than the WHO definition by the Guinean team. According to the WHO, a person is considered elderly if they are 65 years or older. Retirement age is often confused with old age (60 years on average) [2]. Female patients represented 56% of cases. Age had taken its toll on the profession in this population. However, 42.4% of the sample were housewives before retirement. African authors have not focused on the profession of this group, considering it to have little influence on the occurrence of polyarthritis [6,7].

Isolated hypertension was found in 62.2% of patients, and diabetes in 7.5% of cases. This association is frequently described in the elderly, who are often sedentary [6,10,11]. Polyarthralgia was the main reason for consultation, reported by 57.6% of patients, with inflammatory pain in 65.2% of cases and joint swelling in 98.5% of cases. It depended on the underlying condition. These data are similar to those of Diomandé et al. [7], where polyarthralgia constituted 51.4% of admission reasons. Joint deformity was found in 44% of patients, with characteristics dependent on the etiology of polyarthritis. However, joint deformities (more common in RA) do not have specific characteristics in the elderly [9]. The most common non-articular manifestations were hematological, with leukopenia in 87.8% of patients. It is classic in lupus [12]. Also, most of our patients were taking NSAIDs before admission.

Scalp alopecia was the most common skin condition, with 70.9% of cases. A dry syndrome was reported in 13.6% of patients. These were related to Sjögren's syndrome (p < 0.001). Extra-articular manifestations dominated the clinical picture, the characteristics of which were consistent with those described previously [13].

RA was the most common etiology found in 53% of cases. This result is consistent with data from the literature, where RA remains predominant in polyarthritis in the elderly [5]. The high prevalence of rheumatoid factors in our patients may be related to the late diagnosis. Gout was the second most common condition in 13.6% of cases, consistent with previous studies [14]. The link with renal impairment is not significant (p=0.003). Hypertension and diabetes are known risk factors for gout [15]. Other etiologies such as spondyloarthritis (SpA) and microcrystalline arthritis (other than gout) were less frequent in our series. Methotrexate monotherapy was the most commonly used background treatment, with 62.1%. This is due to its efficacy and acceptable tolerance in elderly patients [16]. Other treatments, such as biotherapies, are less prescribed due to cost and risk of infection.

Conclusion

Polyarthritis in the elderly is not uncommon in rheumatology clinic. It is dominated by RA and gout. The clinical characteristics depending on the etiology differ little from classic cases reported elsewhere. Early diagnosis and appropriate management according to the etiology and comorbidities are necessary to improve the prognosis.

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