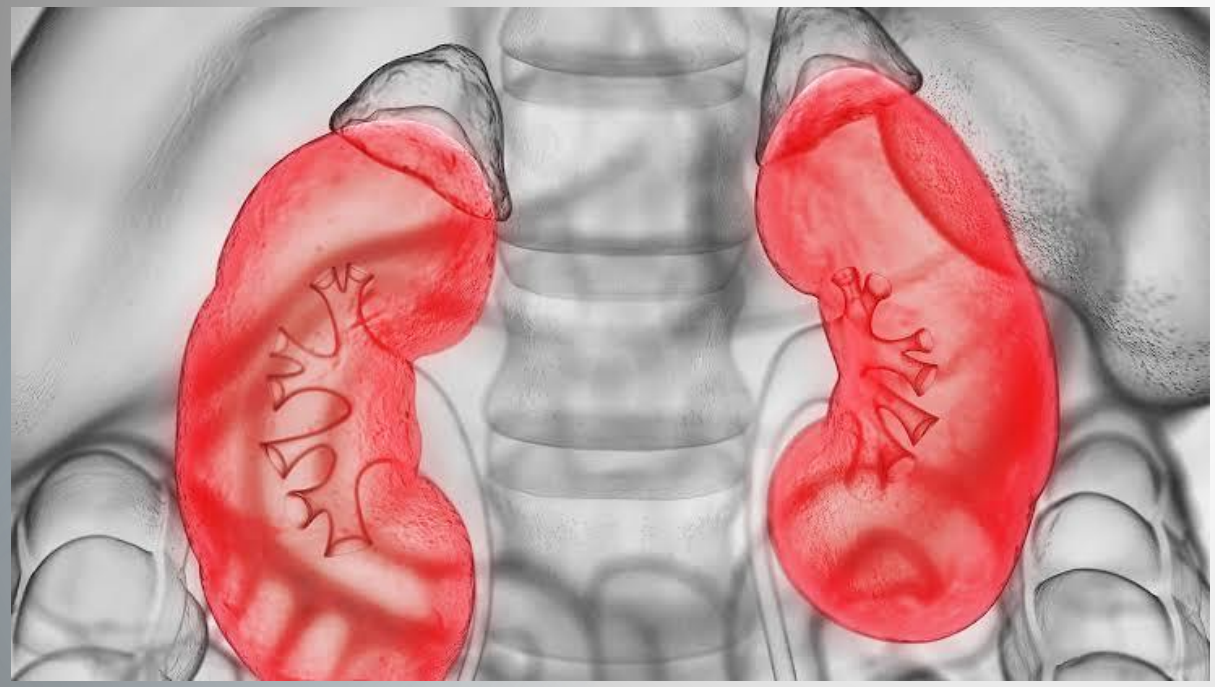
Renal manifestation of Rhumatoid arthritis spondiloarthropathy ; inflammatory myopathies and gout



DR TARANEH ESMAILI

MD NEPHROLOGY

GOLESTAN MEDICAL UNIVERSITY

1404/8/8

What are the different types of spondyloarthritis (spondyloarthropathy)?

Axial spondyloarthritis

Axial spondyloarthritis is spondyloarthritis that mainly affects the joints in your axial skeleton: your neck, chest and spine. As it progresses, it may involve other joints and ***even organs.***

Peripheral spondyloarthritis

Psoriatic arthritis. Psoriatic arthritis is arthritis that occurs together with psoriasis

Enteropathic arthritis. Enteropathic arthritis is arthritis that occurs together with inflammatory bowel disease (IBD).

Reactive arthritis. Reactive arthritis is an autoimmune reaction to an infection in your intestines or urinary tract. It may affect your eyes, skin, bladder, genitals or bowels.

- Pain and inflammation in your urinary tract.
- can cause urinary retention and/or incontinence
- have been linked with kidney disease, specifically IgA nephropathy.

frontiers in Pharmacology

ORIGINAL RESEARCH
published: 18 September 2019
doi: 10.3389/fphar.2019.01073

Check for updates

Spondyloarthritis Patients Suffer Increased Risk of Renal Complications Compared With General Population: A Retrospective Observational Study

*Min Xiao†, Qing Lv†, Yanli Zhang, Liudan Tu, Mingcan Yang, Zhiming Lin, Zetao Liao, Yutong Jiang, Xuqi Zheng, Xiaomin Li, Qiujing Wei, Shuangyan Cao and Jieruo Gu**

Department of Rheumatology and Immunology, Third Affiliated Hospital of Sun Yat-sen University, Guangzhou, China

Renal complications are more common in SpA patients, with more than two-fold increased risk compared with GP.

Renal insufficiency was significantly associated with age, peripheral manifestation, serum albumin, C-reactive protein and erythrocyte sedimentation rate.

total of 350 admitted SpA patients

Patients	Age	Renal clinical manifestation	Renal pathology
1	40≤age<45	***Hematuria and proteinuria***	IgA nephropathy
2	25≤age<30	Hematuria	IgA nephropathy
3	20≤age<25	Hematuria and proteinuria	IgA nephropathy
4	25≤age<30	Hematuria and proteinuria	IgA nephropathy
5	20≤age<25	Hematuria	IgA nephropathy
6	25≤age<30	Hematuria and proteinuria	IgA nephropathy
7	20≤age<25	Hematuria	IgA nephropathy
8	40≤age<45	Hematuria and proteinuria	IgA nephropathy
9	15≤age<20	Hematuria	chronic glomerulonephr with minor glomerular abnormalities
10	25≤age<30	Hematuria and proteinuria	IgA nephropathy
11	20≤age<25	Hematuria and proteinuria	IgA nephropathy
12	25≤age<30	Hematuria and proteinuria	IgA nephropathy
13	45≤age<50	Hematuria	IgA nephropathy
14	45≤age<50	Hematuria	IgA nephropathy
15	25≤age<30	Hematuria	IgA nephropathy

Abstract citation ID: keaf142.220

P183 THE PREVALENCE OF CHRONIC KIDNEY DISEASE IN PATIENTS WITH ANKYLOSING SPONDYLITIS: A SYSTEMATIC REVIEW AND META-ANALYSIS

Jiwoo Sohn, Sungjun Park

Faculty of Life Sciences and Medicine, King's College London, London, United Kingdom

Background/Aims

Extra-articular manifestations are very common in patients with ankylosing spondylitis (AS). Renal complications are experienced by 8-22% of the AS patients, most commonly secondary renal amyloidosis and glomerulonephritis. Though less common than the involvement of other organs, renal impairment is more prevalent in the AS population compared to the general population. Furthermore, renal complications can also be exacerbated by continuous use of nephrotoxic drugs such as non-steroidal anti-inflammatory drugs, which are commonly used to manage AS. Whilst numerous studies investigated the kidney involvement in AS, there remains a lack of insight into the prevalence of chronic kidney disease (CKD) in AS patients. This systematic review and meta-analysis aims to investigate the

Conclusion The meta-analysis suggests a low pooled prevalence of CKD in AS. However, the results need to be interpreted with caution, given the high heterogeneity between studies.

Rheumatology International (2025) 45:151
https://doi.org/10.1007/s00296-025-05907-2

SYSTEMATIC REVIEW

Prevalence and risk factors of renal involvement in seronegative spondyloarthropathies: a systematic review

Kinga M. Tyczyńska[1] · Jerzy Świerkot[1]

Received: 26 November 2024 / Accepted: 26 May 2025 / Published online: 7 June 2025

Abstract

Seronegative spondyloarthritis (SpA) comprises a heterogeneous group of rheumatic diseases characterized by axial and peripheral joint involvement, as well as extra-articular manifestations, including uveitis, psoriasis, and inflammatory bowel disease. Although renal involvement in SpA is less understood, evidence suggests it may result from disease activity, chronic inflammation, or therapeutic agents. The underlying pathophysiology remains unclear. This systematic review evaluates the prevalence and risk factors associated with renal abnormalities in SpA. A systematic literature search was conducted following the latest Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Data from 26 studies published between 1980 and 2025 were synthesized. Extracted variables included study author, year and location of publication, sample size, renal assessment parameters, prevalence of renal involvement, presence of control groups, and statistical significance of findings. Renal involvement in SpA, assessed through hematuria, proteinuria, estimated glomerular filtration rate, and International Classification of Diseases codes, showed considerable variability, with prevalence ranging from 0.2 to 77.5%. Nephrolithiasis was also more common among SpA patients, with reported rates between 1.6% and 29.1%. Potential risk factors, including age, disease activity, comorbidities, and HLA-B27 status, were explored, though findings remained inconsistent. This review highlights significant methodological discrepancies among studies assessing renal involvement in SpA. Further research is needed to clarify the renal complications associated with SpA and establish reliable risk factors.

PROSPERO Registration: CRD42024579791

The study showed that regular NSAID use in SpA patients induced subclinical kidney injury rep resented by rise of biomarkers such as: urinary and serum kidney injury molecule (uKIM-1, sKIM-1) or urine and serum neutrophil gelatinase-associated lipocalin (uNGAL, sNGAL).

AB1062 **RENAL INVOLVEMENT IN SPONDYLOARTHRITIS**

Keywords: Descriptive studies, Spondyloarthritis, Kidneys

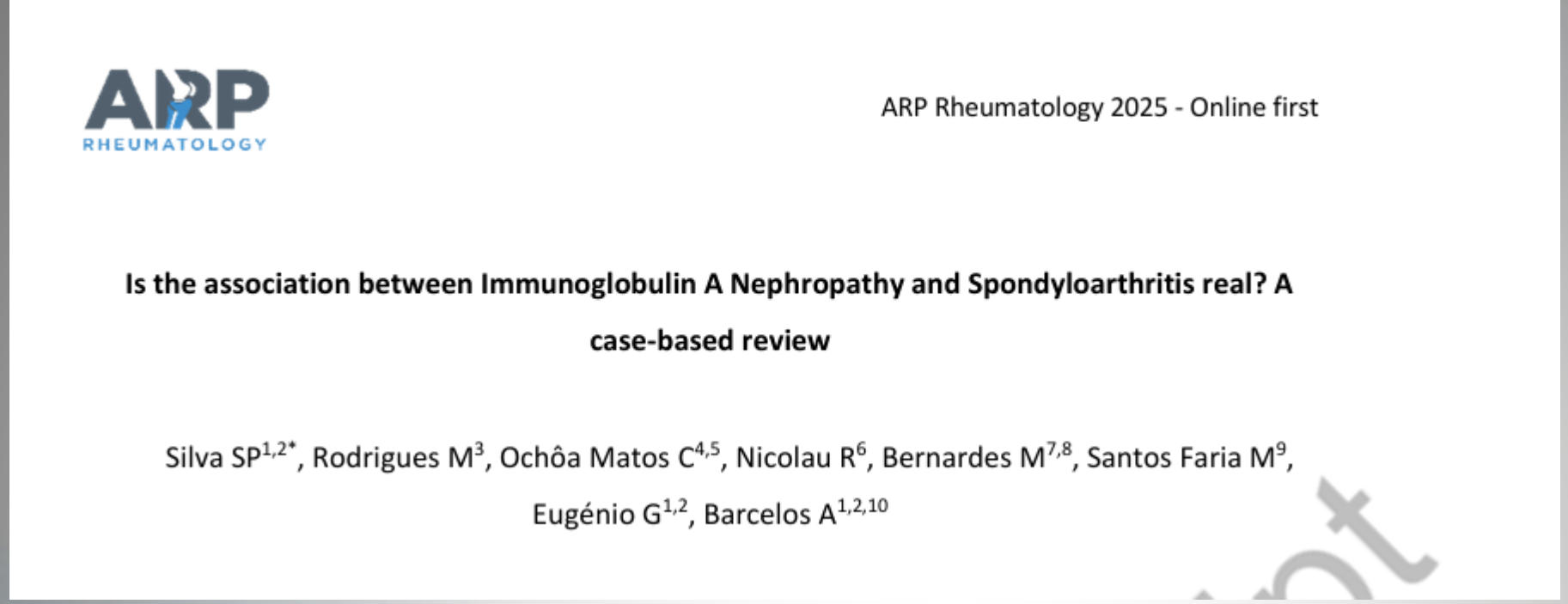
S. Bouden[1], M. Ben Messaoud[1], O. Saidane[1], L. Rouached[1], A. Ben Tekaya[1], I. Mahmoud[1], R. Tekaya[1], L. Abdelmoula[1]. [1]Hospital Charles Nicolle, Rheumatology, Tunis, Tunisia

Background: Spondyloarthritis (SpA) encompasses a group of inflammatory diseases characterized by enthesitis, axial and eventually peripheral skeletal involvement. Extra-articular manifestations are common and important systemic features of SpA. The most common extra-articular manifestations are represented by uveitis, bowel disease, skin, heart, lung and kidney involvement. Renal complications are frequent among patients with SpA.

Objectives: The aim of the present study was to assess the epidemiologic, clinical, biological and histological features of renal diseases in SpA.

Methods: A retrospective monocentric study was performed including patients diagnosed with SpA according to the ASAS criteria. Baseline data were obtained during the period from 2002 to 2022. We reviewed sex, age, disease duration and results of laboratory examination and urinalysis in order to detect renal abnormalities.

107: ***proteinuria*** in 5 patients,
microscopic hematuria in 2 patients,
macroscopic hematuria in 1 patient,
nephrotic syndrome in 2 patients and
decreased renal function in 2 patients.
Secondary renal amyloidosis (4 patients) and
Immunoglobulin A nephropathy (2 patients)
nephrolithiasis (2 patients).
Amyloid deposits were histologically proven by salivary gland biopsy in one case and by renal biopsy in 2 cases.
Concerning the Immunoglobulin A nephropathy,



ARP Rheumatology 2025 - Online first

Is the association between Immunoglobulin A Nephropathy and Spondyloarthritis real? A case-based review

Silva SP[1,2*], Rodrigues M[3], Ochôa Matos C[4,5], Nicolau R[6], Bernardes M[7,8], Santos Faria M[9], Eugénio G[1,2], Barcelos A[1,2,10]

More recent literature describes that
SpA patients have a *two-fold increased* risk of renal complications, including haematuria, proteinuria, renal insufficiency, and nephrolithiasis.
IgAN is one of the most common types of glomerulonephritis.
However, this glomerulopathy has been linked to several illnesses, comprising the so-called ***secondary IgAN2***.

Song *et al. BMC Urology* (2025) 25:106
https://doi.org/10.1186/s12894-025-01796-6

BMC Urology

CASE REPORT Open Access

Multidisciplinary management of a Spondyloarthritis presenting with bladder involvement as the initial clinical symptom: a rare case report

Lingmin Song[1*], Shengdong Li[2], Jingjing Yu[3] and Guobin Weng[1]

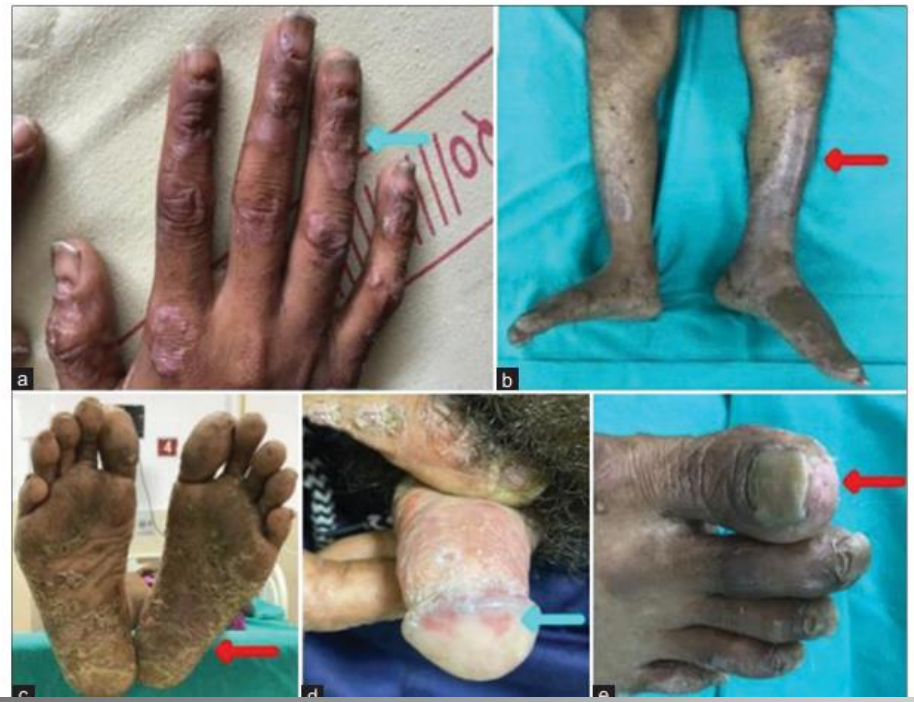
Conclusions This case highlights the potential for SpA to manifest primarily with urological symptoms, emphasizing the need for clinicians to consider systemic inflammatory conditions in cases of refractory LUTS. The successful diagnosis and management underscore the importance of interdisciplinary collaboration between urology and rheumatology.

Case Report

A Case of Spondyloarthritis with Fulminant Extra-articular Features and Renal Amyloidosis and Difficulties in its Phenotypical Classification

P. Anantha Krishnan, Shyam Murti Bohare, Prasan Kumar Panda*, Rajat Ranka
Department of Internal Medicine (ID Division), All India Institute of Medical Sciences, Rishikesh, Uttarakhand, India

How to cite this article: Krishnan PA, Bohare SM, Panda PK, Ranka R. A case of spondyloarthritis with fulminant extra-articular features and renal amyloidosis and difficulties in its phenotypical classification. J Med Evid 2025;6:170-4.



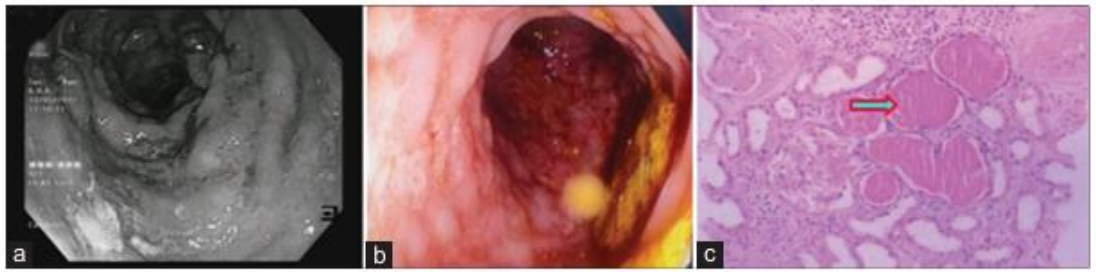


Figure 3: Colonoscopy and histopathology images: Colonoscopy images suggest inflammatory bowel disease (a and b). Histopathology of renal biopsy showing irregular fluffy amorphous material (see arrow) deposition in the mesangial matrix with variable para mesangial expansion, which is weakly positive with Periodic acid-Schiff stain, negative with silver methenamine stain, suggestive of renal amyloidosis (c)

1.1% of AS patients present as amyloidosis in its symptomatic form and 7% in its asymptomatic manifestation

Kidney Diseases in Spondyloarthritis: A Literature Review

A group of diseases

- ankylosing spondylitis
- psoriatic arthritis
- reactive arthritis

Types of kidney lesions

- AA amyloidosis
- IgA nephropathy
- development and progression of CKD
- chronic interstitial nephritis

Risk factors

Female sex, age, Caucasian race, HLA-B27, activity and duration of SpA, presence of extra-articular manifestations of SpA, excess body weight, hypertension, hyperuricemia, elevated levels of IgA, IgG, CRP, low albumin levels, NSAID use, TNF-α inhibitor use (rarely)

SpA – spondyloarthritis; BW – body weight; IgA, IgG – immunoglobulin A, G; CRP – C-reactive protein; NSAIDs – non-steroidal anti-inflammatory drugs; TNF-α inhibitors – tumor necrosis factor α inhibitors.

scientific peer-reviewed journal
Medicine and Biotechnology
Vol. 1, no. 3. 2025

THERAPEUTIC ADVANCES in
Musculoskeletal Disease

Original Research

Incidence rate of and risk factors for glomerulonephritis in patients with axial spondyloarthritis: a nationwide population-based study

Ther Adv Musculoskelet Dis

2025, Vol. 17: 1–12

DOI: 10.1177/1759720X251320328

Subin Hwang, Ye-Jee Kim, Soo Min Ahn and Bon San Koo

- GN is considered a rare disease; however, its incidence has been observed in ***patients with axial SpA***. Comorbidities, including hypertension, are associated with a higher incidence of GN.

- Notably, in the first year after AS diagnosis, the use of medications, including NSAIDs, did not show a significant association with GN development.

Drug-Induced Granulomatous Interstitial Nephritis in a Patient With Ankylosing Spondylitis During Therapy With Adalimumab

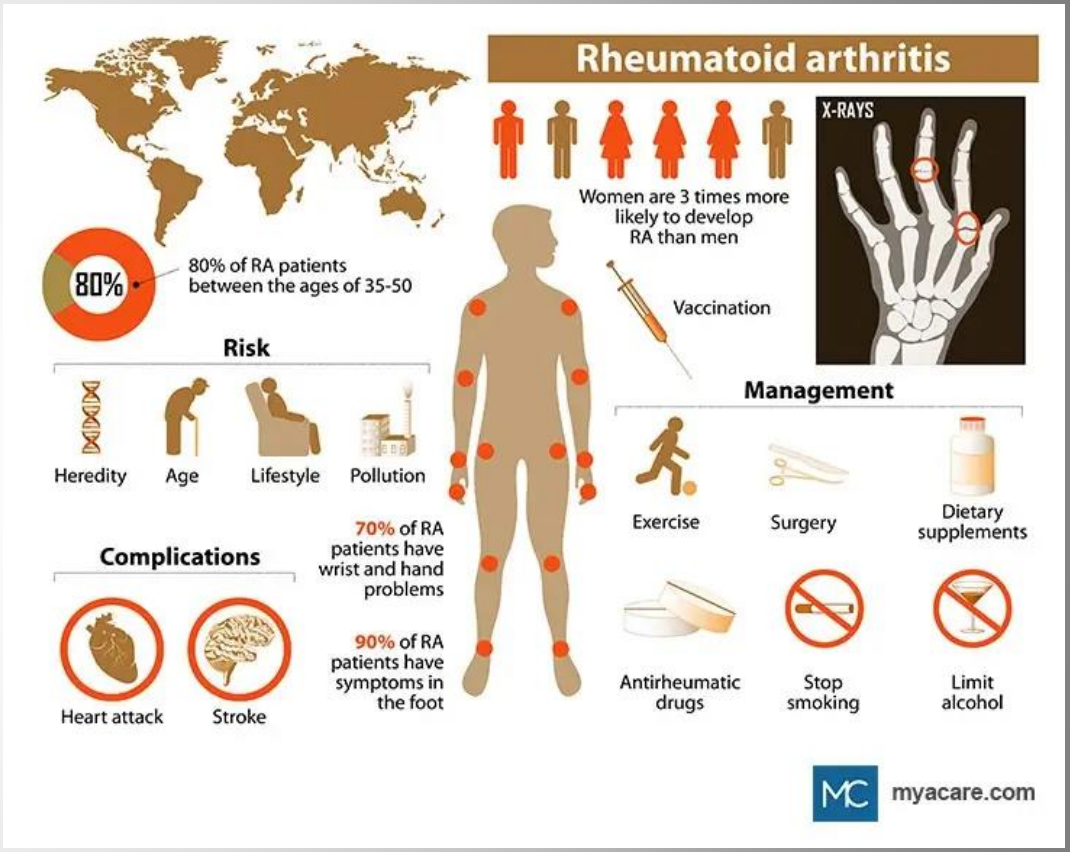
Author links open overlay panelPeter Korsten MD [1], Nadera J. Sweiss MD [2], , Timothy B. Niewold MD [2], , Oliver Gross MD [1], Volume 56, Issue 6, December 2010, Pages e17-e21

- Use of TNF inhibitors is associated with the induction of autoimmunity (systemic lupus erythematosus, vasculitis, psoriasis, and sarcoidosis/sarcoid-like granulomas).
- We report a case of interstitial granulomatous nephritis in a patient
- 42-year-old patient was admitted to the university hospital of Göttingen, Germany, because of an increase in serum creatinine level to 2.85 mg/dL (251.94 μmol/L) 18 months after initiation of adalimumab therapy with adalimumab

Renal complication among rheumatoid arthritis patients

- *Rheumatoid arthritis (RA) is a common rheumatological disease which can involve a variety of different renal manifestations.*

- *This may be explained by disease effect itself or by medications used for treatment that may lead to renal dysfunction and its complications.*



Annals of Medicine and Surgery 60 (2020) 280–284

Contents lists available at ScienceDirect

Annals of Medicine and Surgery

journal homepage: www.elsevier.com/locate/amsu

Renal dysfunction among rheumatoid arthritis patients: A retrospective cohort study

Ashraf O. Oweis [a,*], Khaldoon M. Alawneh [b], Sameeha A. Alshelleh [c], Fatima Alnaimat [d], Diala Alawneh [e], Deeb Jamil Zahran [f]

- Data gathered from the 285 patients showed a female predominance with 88.4% female and 11.6% male. The average disease duration was 6.7 years.
- ***serum CRP were associated with worse renal function on univariate analysis***.
- 44 patients (18.8%) presented with microscopic hematuria,
- 16 (6.9%) with proteinuria
- 5 (2.1%) patients presented with both microscopic hematuria and proteinuria.

2003;55(2):76-85.
doi: 10.4081/reumatismo.2003.76.

[Kidney involvement in rheumatoid arthritis]

[Article in Italian]

A Icardi[1], P Araghi, M Ciabattoni, U Romano, P Lazzarini, G Bianchi

Affiliations

•PMID: 12874640
•DOI: 10.4081/reumatismo.2003.76

- glomerulonephritis and amyloidosis (60-65% and 20-30% respectively), followed by acute or chronic interstitial nephritis.
- Strong association between ***RA activity and amyloidosis*** needs the use of immunosuppressive and combined therapies, to prevent this complication and reduce risk of dialysis
- Rare cases of ***IgA glomerulonephritis*** during immunomodulating therapy with leflunomide and TNF blocking receptor (etanercept) are reported

- In RA nephropathies, ***mesangial glomerulonephritis*** is the most frequent histological lesion (35-60 % out of biopsies from patients with urinary abnormalities and/or kidney impairment), followed by ***minimal change glomerulopathy*** (3-14%) and ***p-ANCA positive*** necrotizing crescentic glomerulonephritis.

SUN-410

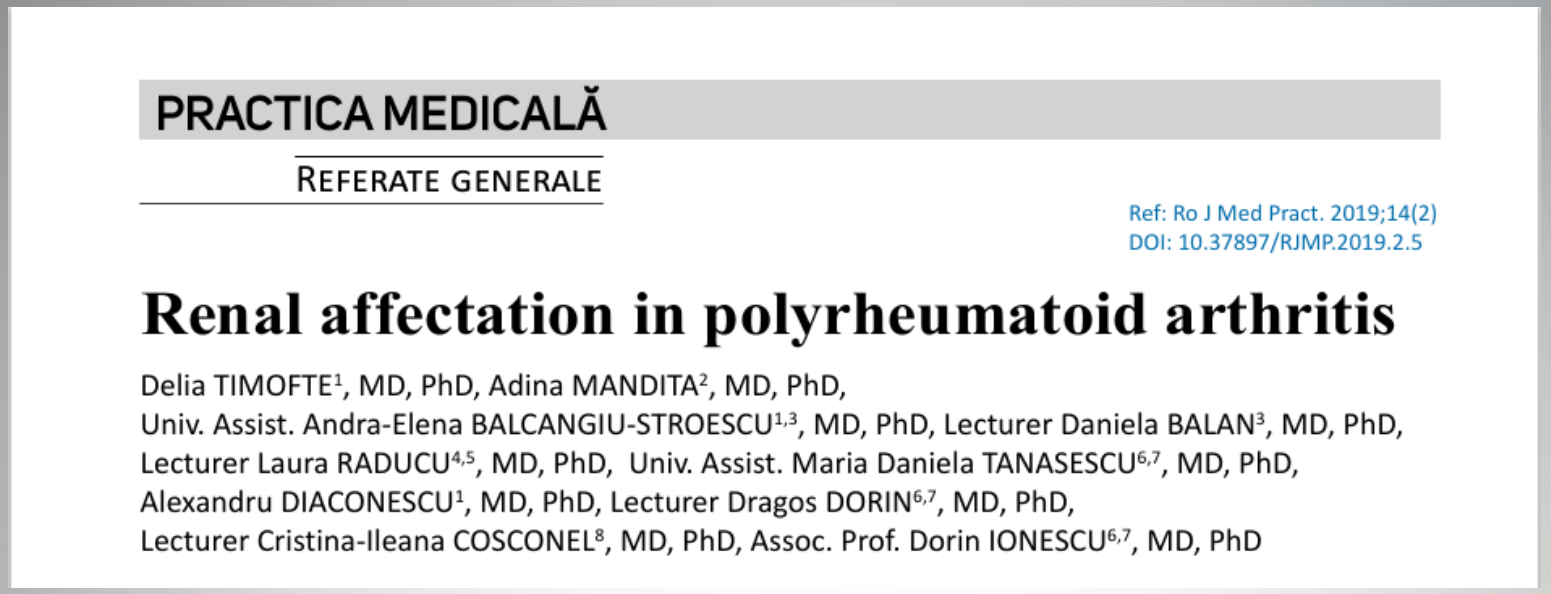
RENAL INVOLVEMENT IN RHEUMATOID ARTHRITIS

Gorsane MD, I*[1], Badrouchi, S[2], Azabi, S[2], Driss, N[2], Jerbi, M[3], barbouch, S[2], Ben abdallah, T[2]

[1]Charles Nicolle Hospital nephrology dialysis and transplantation\ rnephrology Tunis Tunisia, [2]charles nicolle hospital nephrology tunis Tunisia, [3]mongi slim hospital nephrology marsa Tunisia

- 26 patients were included.
- In the Urine Test Strip, 24 patients had proteinuria and hematuria was positive in 10 patients.
- Eleven patients met the criteria for nephrotic syndrome.
- On admission, acute kidney injury (AKI) was present in 4 patients,
-
- Kidney biopsy was performed on 13 patients:
- ***Secondary renal amyloidosis*** was present in 8 patients,
- ***focal and segmental glomerulosclerosis*** in 1 patient,
- ***membranous glomerulonephritis*** in 1 patient,
- ***optically normal aspect*** in 1 patient ***and lupus nephritis (class IV disease***) in one patient.
- All our patients were treated with steroids and 4 of them received cyclophosphamide.

Kidney International Reports (2020) 5, S1–S392



PRACTICA MEDICALĂ

REFERATE GENERALE

Ref: Ro J Med Pract. 2019;14(2)
DOI: 10.37897/RJMP.2019.2.5

Renal affectation in polyrheumatoid arthritis

Delia TIMOFTE[1], MD, PhD, Adina MANDITA[2], MD, PhD,
Univ. Assist. Andra-Elena BALCANGIU-STROESCU[1,3], MD, PhD, Lecturer Daniela BALAN[3], MD, PhD,
Lecturer Laura RADUCU[4,5], MD, PhD, Univ. Assist. Maria Daniela TANASESCU[6,7], MD, PhD,
Alexandru DIACONESCU[1], MD, PhD, Lecturer Dragos DORIN[6,7], MD, PhD,
Lecturer Cristina-Ileana COSCONEL[8], MD, PhD, Assoc. Prof. Dorin IONESCU[6,7], MD, PhD

- Glomerular lesions ***Mesangial glomerulonephritis*** is encountered in 35-78% of the PA patients with renal affecta tion, especially those who have had the disease for a **long time** (12.9 ± 10.4 years).
- Interleukine 6, which has a role in mesangial cells increase, was involved in this type of nephropathy.
- ***Membranous glomerulonephritis*** is uncommon in the absence of the treatment with gold salts and d- penicillamine.
- Rare cases of ***IgA nephropathy*** and disease with minimal lesions have been described

www.kidney-international.org make your diagnosis

The Case | Glomerulonephritis in a patient with rheumatoid arthritis

Balazs Odler[1], Holger Flick[2], Marion J. Pollheimer[3], Anna Goritschan[1], Alexander R. Rosenkranz[1] and Kathrin Eller[1]

[1]Divison of Nephrology, Clinical Division of Nephrology, Department of Internal Medicine, Medical University of Graz, Graz, Austria; [2]Division of Pulmonology, Clinical Division of Pulmonology, Department of Internal Medicine, Medical University of Graz, Graz, Austria; and [3]Institute of Pathology, Medical University of Graz, Graz, Austria

Correspondence: Kathrin Eller, Clinical Division of Nephrology, Department of Internal Medicine, Medical University of Graz, Auenbruggerplatz 27, A-8036 Graz, Austria. E-mail: kathrin.eller@medunigraz.at

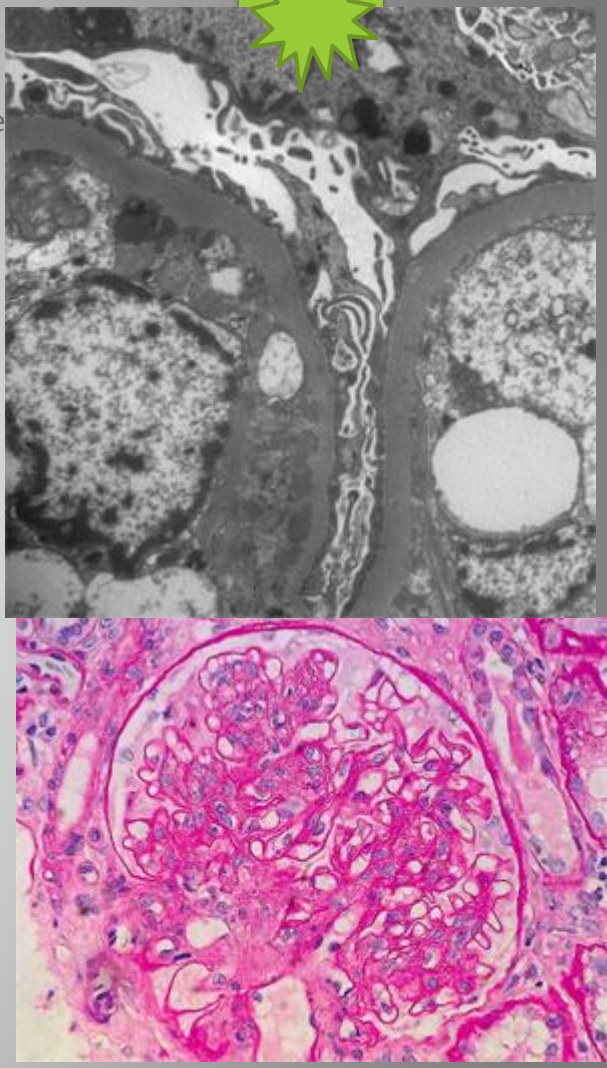
Kidney International (2020) **98,** 1057–1058; https://doi.org/10.1016/j.kint.2020.05.010

- A49-year-old man was referred to the hospital because of acute kidney injury.. He had received a single dose of adalimumab 2 months previously after experiencing intoler ance to leflunomide and etanercept (3 doses).
- Physical examination revealed elevated blood pressure (190/110 mm Hg) and periorbital edema
- Laboratory investigations revealed a serum-creatinine level of 2.07 mg/dl,
- a decreased hemoglobin level of 11.6 g/dl,
- and a serum albumin level of 2.96 g/dl.

The Diagnosis | ***Diffuse proliferative and crescentic GN with membranoproliferative*** pattern, immune complex type, and a *sarcoid-like reaction after anti–TNF-a therapy*

Rheumatoid Arthritis & Autoimmune Glomerulonephritis

iana M. Girnita, MD, PhD, Shahzad Safdar, MD, & Avis Ware, MD | Issue 2016 | June 13, 2016



- 69-year-old African American female with 25 years' history of seropositive, erosive RA
- Review of her medical chart revealed that, over the years, the patient had failed multiple disease-modifying anti-rheumatic drugs (DMARDs), such as hydroxychloroquine, methotrexate and leflunomide, and several biologic medications, including infliximab, etanercept and adalimumab.
- Autoimmune glomerulonephritis is rarely it's mostly in close temporal relation with the use of TNF-alpha inhibitor
- Exposure to TNF-alpha inhibitors, particularly in RA, is associated with ***membranous or necrotizing crescentic GN***
- Etanercept being the cause in about 51% of cases, followed by adalimumab (31.0%), infliximab (10.3%), tocilizumab and abatacept (3.4% each).

Patients with HLA-B8 and DR3 antigens are more susceptible for drug-induced GN.

Figure 1: Renal biopsy. H&E staining: enlarged glomeruli, mesangial expansion with diffuse increased cellularity; glomerular basement membranes irregularly thickened, but no vasculitis, necrotizing lesions, crescents or hyaline thrombi were seen within the capillary loops.

POSTER/SATURDAY:

Rituximab Induction in Rheumatoid-Associated, ANCA-Negative, Pauci-Immune Glomerulonephritis

Song, Chunzi[1]; Khayat, Maurice I.[1,2]
Author Information*Journal of the American Society of Nephrology* 35(10S):10.1681/ASN.20248tb18h2v, October 2024. | *DOI:* 10.1681/ASN.20248tb18h2v

- A 68 year-old man with a history of RA presented with anasarca, acute kidney injury and nephrotic syndrome. His RA was diagnosed 15 years prior with erosive arthritis, positive antinuclear antibodies, rheumatoid factor, and anti-cyclic citrullinated peptide antibodies
- serum creatinine between 2.6-3.0 mg/dL, albumin of <1 mg/dL, and urine protein-to-creatinine ratio between 5.4-14 g/g.
- Renal biopsy revealed ***pauci-immune focal crescentic GN***, global and segmental glomerulosclerosis without interstitial fibrosis or tubular atrophy (IFTA).
- ***ANCA-negative RV with crescentic GN is rare, and the optimal treatment is uncertain***

Renal Lesions in Rheumatoid Arthritis Variants and Risk Factors

Chebotareva, Natalia V. Dr.; Guliaev, Sergey V. Dr.; Androsova, Tatiana V. Dr.; Moiseev, Sergey V. Dr.
Author Information*Saudi Journal of Kidney Diseases and Transplantation* 32(2):p 588-589, Mar–Apr 2021. | *DOI:* 10.4103/1319-2442.335478

- 242 patients with RA between 2017 and 2019
- In our study **amyloidosis** was also the most common histologic pattern in 86 (35.5 %),
- chronic glomerulonephritis (**CGN**) in 14 (16.3 %) and
- **tubulo-interstitial nephritis** in nine (10.4%) cases.
- Mesangial glomerulonephritis was most frequent in patients with glomerulonephritis. Mesangioproliferative GN (MPGN) was diagnosed in seven patients (6 – IgA nephropathy, 1 – IgM nephropathy),
- MPGN in two, minimal change disease in one, membranous nephropathy in one, nephrosclerosis due to GN in three.

has been shown that elevated levels of CRP, as well as high levels of interleukin-6 (IL-6) and TNF-alpha, may be risk factors for CKD.

EXPERIMENTAL AND THERAPEUTIC MEDICINE 16: 2639-2644, 2018

Complement 3 glomerulonephritis in rheumatoid arthritis: A case report and follow-up

XIN WANG, LU HAN, HUIFANG LI and DONGMEI ZHANG

Department of Nephrology, The Second Hospital of Jilin University, Changchun, Jilin 130041, P.R. China

Received December 10, 2017; Accepted June 8, 2018

DOI: 10.3892/etm.2018.6476

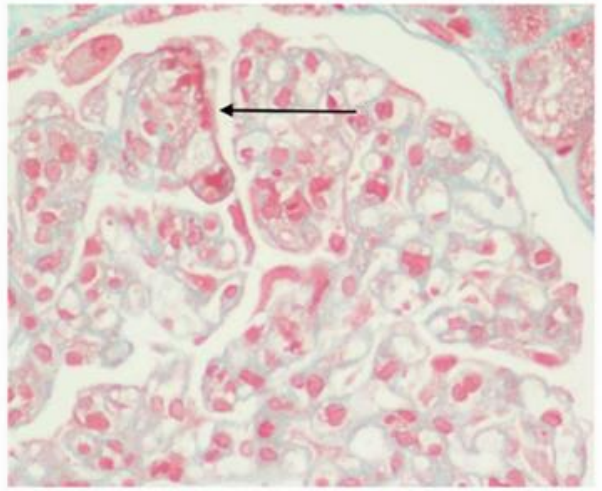


Figure 3. Light microscopy. The arrow indicates where the immune complexes were segmentally deposited on the subendothelial area (Masson trichrome stain; magnification, x400).

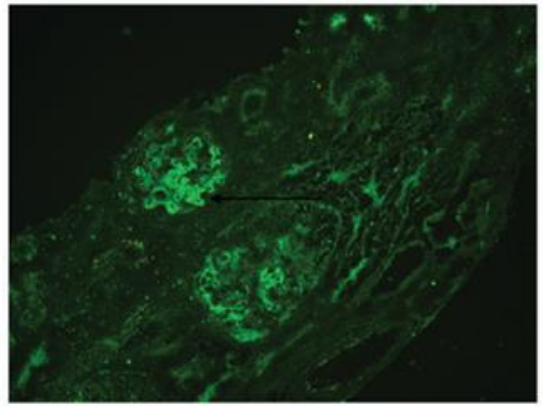


Figure 4. Immunofluorescence microscopy. The arrow indicates bright C3 staining in the mesangium and granular deposition along the capillary walls (magnification, x400).

- A 63-year-old Chinese woman presented at the Second Hospital of Jilin University (Changchun, China) in January 2015 due to polyarthritis with pain, stiffness and swelling for 18 years, as well as acute bilateral leg swelling and urinary abnormalities for 1 week. She had been diagnosed as having RA 18 years ago

- One week prior to her presentation at hospital, she had bilateral pitting leg edema with no obvious predisposing causes. The urine analysis revealed hematuria 3+ and proteinuria 3+

www.nephropathol.com DOI: 10.15171/jnp.2017.10 J Nephropathol. 2017;6(2):58-62

Journal of Nephropathology

MPO-ANCA-associated necrotizing glomerulonephritis in rheumatoid arthritis; a case report and review of literature

Mário Góis*, Ana Messias, Dulce Carvalho, Fernanda Carvalho, Helena Sousa, João Sousa, Fernando Nolasco

Nephrology Department, Hospital Curry Cabral, Centro Hospitalar de Lisboa Central, Lisboa, Portugal

- A 55-year-old man with a 27-year history of RA under secukinumab was referred to our nephrology clinic with worsening renal function associated with microhematuria and proteinuria.
- Our laboratory evaluation showed hypocomplementemia and positive titers for MPO-ANCA (615 U/mL

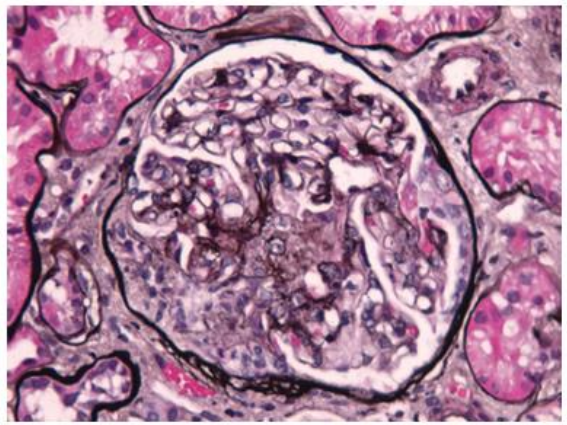


Figure 1. Renal biopsy, methenamine silver; X400. The kidney biopsy specimen contained 13 glomeruli and one had segmental necrosis and cellular crescent formation.

- ***Mesangial glomerulonephritis*** affects an estimated 35% to 78% of patients with RA with known nephropathy, typically those with ***long-standing RA*** (12.9 ± 10.4 years). Interleukin-6 has been implicated as a growth factor for mesangial cells in limited animal and human studies. The course of mesangial glomerulonephritis is usually mild and rarely associated with renal failure.
- ***Membranous glomerulonephritis*** can result from immune-complex deposition, in a segmental or diffuse pattern, in the glomerular basement membrane. In patients with RA, membranous glomerulonephritis has been linked with a ***shorter disease duration*** (3.8 ± 2.9 years) and primarily ***affects those taking DMARDs*** such as penicillamine, gold, and bucillamine.
- ***Immunoglobulin A (IgA) glomerulonephritis*** has a reported prevalence of 12% in RA, similar to the general population, and is "histologically indistinguishable between patients with and without RA."
- ***Secondary amyloidosis*** commonly affected patients with RA before the introduction of biologic DMARDs and represented a major cause of death in this population compared with controls. It is associated with ***longer RA disease duration*** (17.2 ± 7.3 years) and is the result of defective metabolism of serum amyloid A acute-phase reactant precursor protein.

Renal complication in gout disease

Roughley *et al. Arthritis Research & Therapy* (2015) 17:90
DOI 10.1186/s13075-015-0610-9

arthritis research&therapy

RESEARCH ARTICLE Open Access

Gout and risk of chronic kidney disease and nephrolithiasis: meta-analysis of observational studies

Matthew J Roughley[1], John Belcher[2], Christian D Mallen[3] and Edward Roddy[3*]

- Seventeen studies were included in the meta-analysis
- In this systematic review and meta-analysis of populationbased epidemiological studies, renal disease and nephrolithiasis were common findings in people with gout.
- The pooled prevalence estimates of CKD stage ≥3 and self reported nephrolithiasis in people with gout were 24% and 14% respectivel

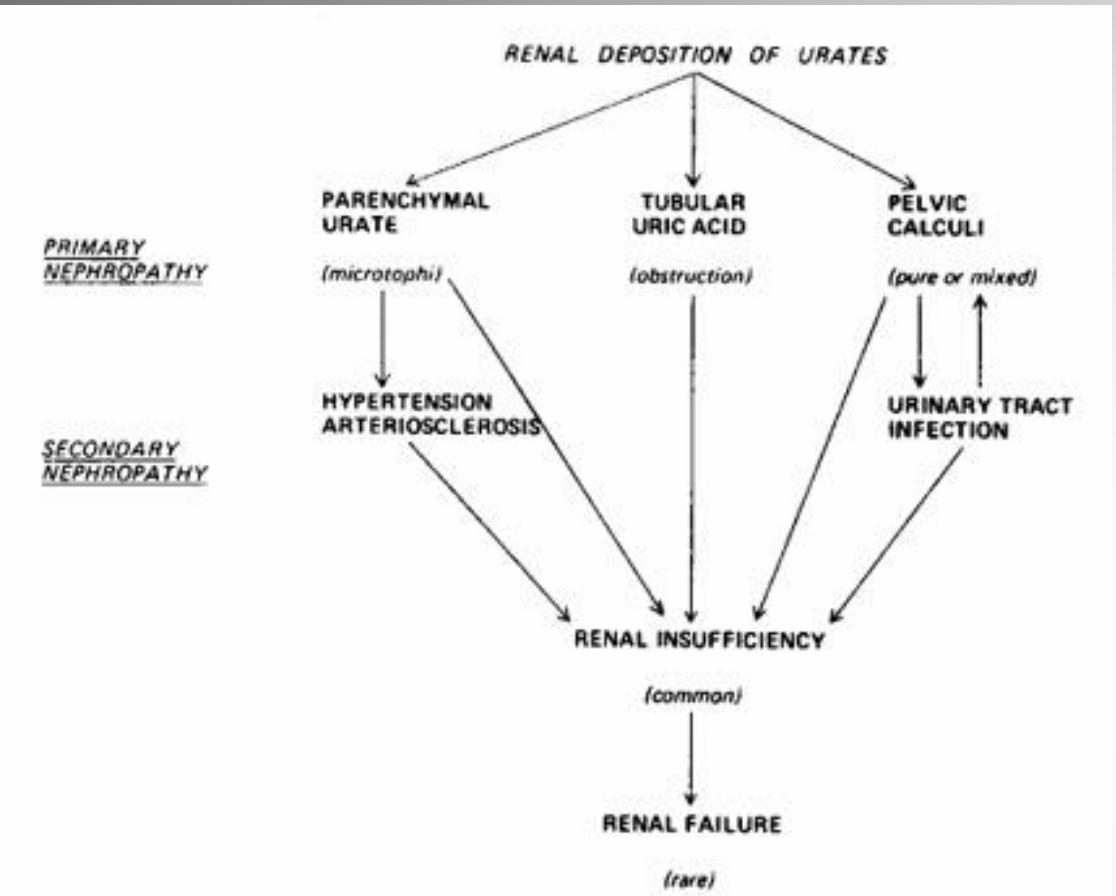


FIGURE 1: Schema to illustrate how different types of urate and uric acid deposition can lead to various pathological findings in the kidneys of patients with gout.

- **Uric acid stones,** which may be composed of pure uric acid, are radiolucent or mixed with calcium oxalate and radiopaque. Uric acid stones develop in 20% of patients with gout Uric acid
-
- **chronic gouty nephropathy** develops in patients with sustained hyperuricemia. It is characterized by the interstitial deposition of sodium urate. Urate elicits a mononuclear cell reaction and a giant cell reaction resulting in microtophus formation

News | **Articles** | April 29, 2025

Gout Prevalence High Among Patients With End-Stage Renal Disease

*Author(s)*Victoria Johnson
Fact checked by: Tim Smith

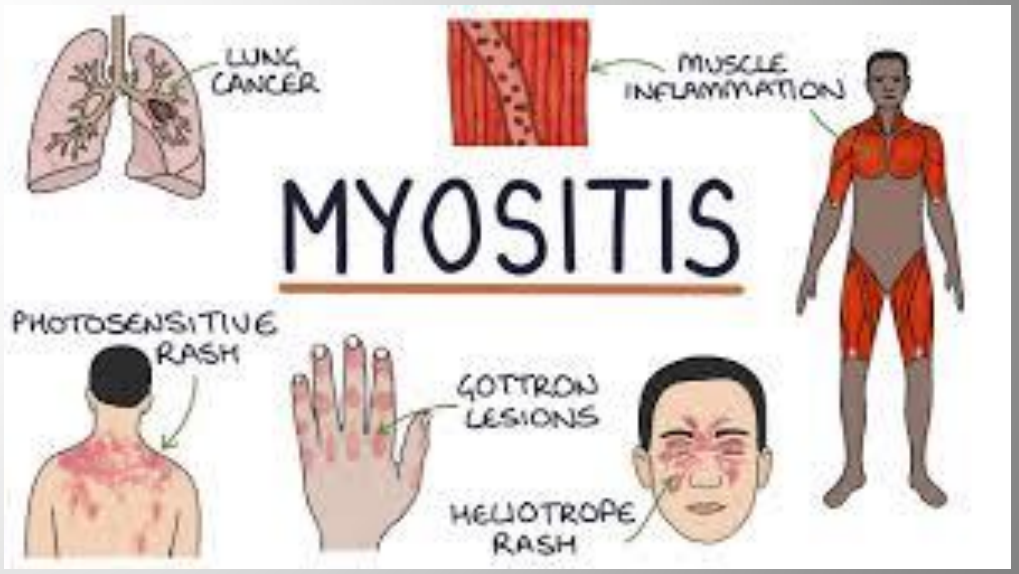
- People with CKD are more prone to gout as their kidneys aren't working as well, so they can't filter the waste product uric acid from the blood and excrete it in urine as efficiently as healthy kidneys.
- Up to 25 percent of people with CKD stage 3 to 5 are likely to develop gout because of high urate levels in their body.

- ESRD patients show a 46.3% prevalence of gout, with CKD being an independent risk factor for the condition

SGLT2 inhibition reduces serum uric acid in patients with CKD with larger effects at higher eGFR and in the absence of diabetes.

However, the effect on uric acid is modest and did not translate into reduced risk of gout in EMPA-KIDNEY."

Renal Involvement in Inflammatory Myopathies



Renal Involvement in Idiopathic Inflammatory Myopathies

Published: *21 November 2015*

Volume 52, pages 99–107, (2017)

- Renal involvement in idiopathic inflammatory myopathies is not as uncommon as was previously thought, as it develops in about one fifth of patients 20%

- Clinical presentation includes either acute kidney injury or chronic glomerulonephritis.
- The former usually develops abruptly during acute phases of rhabdomyolysis

The Spectrum of Renal Involvement in Patients With Inflammatory Myopathies

Grégoire Couvrat-Desvergnes, MD, Agathe Masseau, MD, Olivier Benveniste, MD, PhD, Alexandra Bruel, MD, Baptiste Hervier, MD, Jean-Marie Mussini, MD, David Buob, MD, Eric Hachulla, MD, PhD, Philippe Rémy, MD, Raymond Azar, MD, Evelyne Mac Namara, MD, Brigitte MacGregor, MD, Laurent Daniel, MD, PhD, Adeline Lacraz, MD, Thomas De Broucker, MD, Philippe Rouvier, MD, Philippe Carli, MD, PhD, Maurice Laville, MD, PhD, Etienne Dantan, MD, Mohamed Hamidou, MD, PhD, Anne Moreau, MD, and Fadi Fakhouri, MD, PhD

Pt	Age*/ Sex (yr)	Myositis	Time Between Myositis Onset and Renal Disease	AutoAb	P-uria (g/d)	H-uria	AKI	SCr (μmol/L)	Diagnosis	Treatment	Outcome
1	38/F	AS	0	SSa, SSb, JO1	2	+	-	45	IgAN	Cs, MTX, IVIg, TNF-i	R
2	43/M	AS	18 yr	JO1, SSa	3	+	-	49	IgAN	Cs, MTX	R
3	58/M	PM	1 mo	+	1.5	+	-	90	MN	Cs, MTX	CKD
4	45/F	AS	4 yr†	JO1, SSa, RnP	7	NA	+	145	Cr MN	CLM, Cs, MMF, CSA	CKD
5	55/M	PM	0	Scl70, p-ANCA	1.6	+	+	200	VL‡	Cs	ESRD
6	68/M	DM	2 yr	NA	1	+	+	420	VL‡	Cs, AZA, MMF	ESRD
7	67/F	PM	3 mo	p-ANCA	2	+	+	570	VL‡	Cs	ESRD
8	34/M	DM	0	+	1.2	+	-	54	VL‡	AZA, RTX	CKD
9	70/M	PM	4 mo	-	0.2	NA	+	737	Nonspecific VL	Cs	ESRD
10	60/F	PM	2 yr	SSa, SSb	2	-	-	111	FSGS	CSA, AZA, Cs	PR
11	70/F	DM	14 yr	+	7	NA	-	135	FSGS + VL	Cs	PR
12	39/F	DM	0	-	1.4	-	-	NR	MCD	Cs + AZA	CKD
13	42/M	DM	0	-	4.2	+	-	72	MCD	Cs, MTX, IVIg	R
14	63/F	PM	1 yr†	p-ANCA	0.7	-	-	110	CTIN	Cs	CKD

Abbreviations: See previous tables. AutoAb = autoantibodies, CLM = chloraminophen, Cr = crescentic, CSA = cyclosporine, CTIN = chronic tubulointerstitial nephritis, FSGS = focal segmental glomerulosclerosis, H-uria = hematuria, MCD = minimal change disease, NA = Not available, Pl = plasmapheresis, PR = partial remission, P-uria = proteinuria, R = remission, RTX = rituximab, TNF-i = TNF-α inhibitor, VL = vascular lesions.

*Age at time of IM.

†Renal symptoms predated the onset of myositis.

‡Edematous thickening of small arteries intima.

- 150 patients with dermatomyositis, polymyositis, and antisynthetase syndrome followed in 3 French referral centers. Renal involvement occurred in 35 (23.3%) pa tients:
- AKI in 16 (10.7%),
- CKD in 31 (20.7%) patients.
- The main cause of AKI was drug or myoglobinuria-induced acute tubular necrosis
- Male sex, cardiovascular risk factors, cardiac involvement, and intial proteinuria 90.3 g/d were associated with the occurrence of AKI
- . Wealso identified 14 IM patients who underwent a kidney biopsy in 10 nephrology centers. Renal pathology disclosed a wide range of renal disorders, ***mainly immune-complex glomerulonephritis.*** We iden tified in 5 patients a peculiar pattern of severe ***acute renal vascular damage***.

Medicine & Volume 93, Number 1, January 2014

•. 2001 Mar-Apr;14(2):120-4.

Idiopathic polymyositis and glomerulonephritis

O F Valenzuela[1], I W Reiser, J G Porush
Affiliations

•PMID: 11411013

- e report a 28-year-old male who presented with a clinical picture compatible with idiopathic polymyositis and nephrotic-range proteinuria. Muscle biopsy confirmed the diagnosis of polymyositis and a diagnostic renal biopsy demonstrated ***IgM mesangial glomerulonephritis***.

International Journal of Clinical Practice

Forward Series

Renal involvement in patients with polymyositis and dermatomyositis

T-H. Yen, 1,2 P-C. Lai, 1 C-C. Chen, 3 S. Hsueh, 4 J-Y. Huang 1

First published: 16 February 2005

- Renal involvement in patients with polymyositis (PM)/dermatomyositis (DM) is previously thought to be uncommon, but two main types of renal lesion have been described. First, acute tubular necrosis with renal failure related to myoglobulinemia and myoglobulinuria is a well-recognised feature of acute rhabdomyolysis.
- Second, chronic glomerulonephritis has been infrequently reported in a small group of patients with PM/DM
- 65patant between 1992-2002
- Renal biopsy in two DM patients with overt proteinuria revealed **IgA nephropathy in one and membranous nephropath**

Abstracts accepted for Publication

AB0672 RENAL INVOLVEMENT IN PATIENTS WITH DERMATOMYOSITIS AND POLYMYOSITIS

FREE

Simeon Monov[1],
Daniela Monova[2],
Russka Shumnalieva[1],
Elena Miloshova[2]

https://doi.org/10.1136/annrheumdis-2019-eular.1525

- Of the 107 patients, 26 were found to have suffered varying degree of renal involvement. All the 26 patients (22 patients with DM and 4 with PM) had varying degree of proteinuria and haematuria

- Kidney biopsy was performed in 16 patients and showed
- chronic tubulointerstitial nephritis (7 cases),
- minimal change disease (2 cases),
- focal segmental glomerulosclerosis lesions (3 cases),
- IgA nephropathy (2 cases),
- membranous nephropathy (1 case),

Amyloid deposits (1 case)

Original paper

Reumatologia 2022; 60, 3: 200–208
DOI: https://doi.org/10.5114/reum.2022.117840

Glomerulopathy in patients with dermatomyositis in early active disease: clinical, pathological and capillaroscopic manifestations, and response to treatment

Saeedeh Shenavandeh[1], Mahsa TorabiJahromi[2], Sahand Mohammadzadeh[3]

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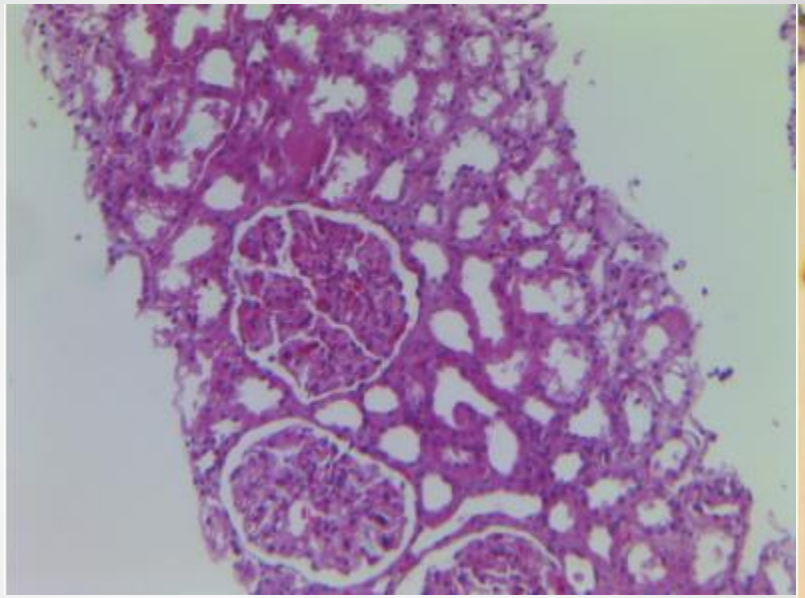
[2]Department of Internal Medicine, Division of Nephrology, Shiraz University of Medical Sciences, Iran
[3]Department of Pathology, Shiraz University of Medical Science, Iran

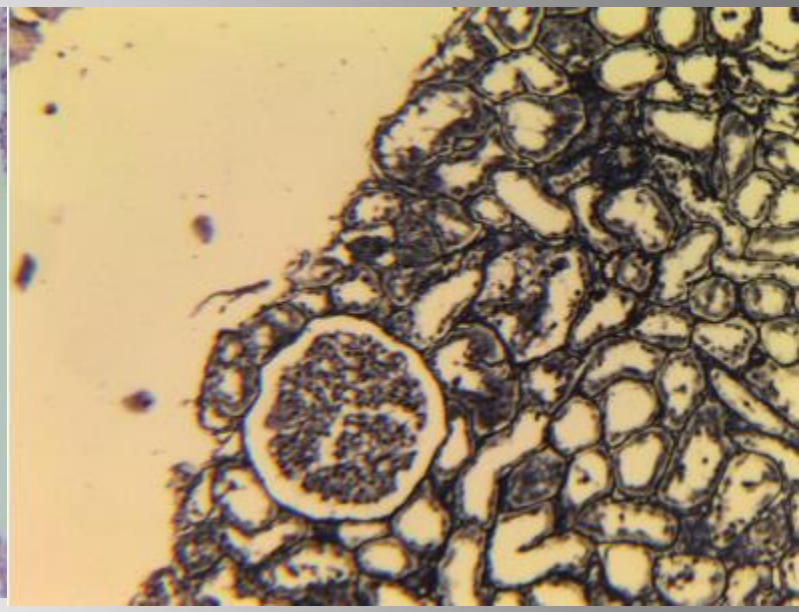
- : From 74 patients with DM, 52 female and 22 male, median age 37 (19–65) years, and disease duration of 4.5yearss.
- Both had high disease activity, high erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), abnormal capillaroscopy, and high anti-Ro positivity
- Conclusions: We found ***mesangioproliferative GN*** as a rare extra-muscular manifestation in patients with and DM in the active and early phase of the disease.

•Case Report Dermatomyositis Sine Myositis with Membranoproliferative Glomerulonephritis

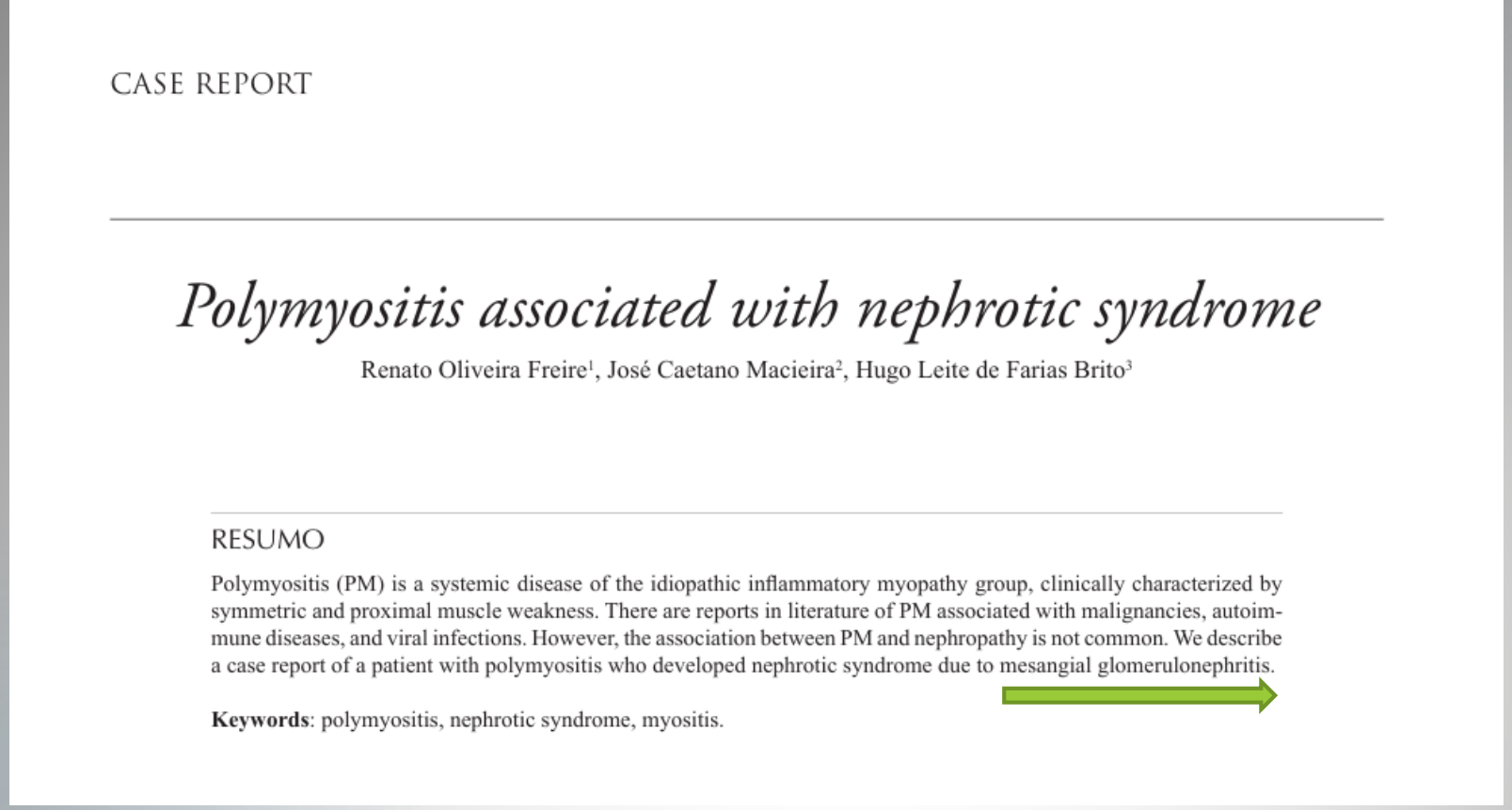
Hindawi Publishing Corporation
Case Reports in RheumatologyAugust 2012
2012(8):751683
*DOI:*10.1155/2012/751683
Source
PubMed

Volume 2012, Article ID 751683, 3 pages
doi:10.1155/2012/751683





- We report a 52-year-old woman with a 6-year history of dermatomyositis sine myositis, who developed lower extremity edema and proteinuria. Pathological examination of renal biopsy showed membranoproliferative glomerulonephritis



CASE REPORT

Polymyositis associated with nephrotic syndrome

Renato Oliveira Freire[1], José Caetano Macieira[2], Hugo Leite de Farias Brito[3]

RESUMO

Polymyositis (PM) is a systemic disease of the idiopathic inflammatory myopathy group, clinically characterized by symmetric and proximal muscle weakness. There are reports in literature of PM associated with malignancies, autoimmune diseases, and viral infections. However, the association between PM and nephropathy is not common. We describe a case report of a patient with polymyositis who developed nephrotic syndrome due to mesangial glomerulonephritis.

Keywords: polymyositis, nephrotic syndrome, myositis.

- PM can occur alone or be associated with systemic autoimmune diseases and viral infections, such as lupus, rheumatoid arthritis, Crohn's disease, HIV infection, and HTLV***. However, renal involvement in PM is not common***. We report the case of a 37-year-old patient who developed anasarca and renal injury, as detected by biopsy

Bras J Rheumatol 2010;50(4):462-6

ELSEVIER

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Relato de caso

Nefropatia por IgA e polimiosite: uma rara associação

Thiago Bitar Moraes Barros[a], *Fernando Henrique Carlos de Souza*[a], *Denise Maria Avancini Costa Malheiros*[b], *Mauricio Levy-Neto*[a], *Samuel Katsuyuki Shinjo*[a,*]

[a]*Serviço de Reumatologia, Hospital das Clínicas, Faculdade de Medicina, Universidade de São Paulo, São Paulo, SP, Brasil*
[b]*Serviço de Patologia, Hospital das Clínicas, Faculdade de Medicina, Universidade de São Paulo, São Paulo, SP, Brasil*

INFORMAÇÕES

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Palavras-chave:
Miopatia inflamatória
Nefropatia por IgA
Polimiosite
Relato de caso

RESUMO

A polimiosite é uma miopatia inflamatória idiopática sistêmica que, além da manifestação muscular, pode eventualmente cursar com acometimento respiratório, do trato gastrintestinal e, raramente, renal. Neste último caso, há descrição de apenas dois casos de nefropatia por IgA em pacientes com miopatia, ambos em dermatomiosite. Em contrapartida, relatamos pela primeira vez esta rara associação em polimiosite.

IgA nephropathy and polymyositis: a rare association

Keywords:
Inflammatory myopathy
IgA nephropathy
Polymyositis
Case report

ABSTRACT

Polymyositis is a systemic and idiopathic inflammatory myopathy that, besides muscle manifestation, may occur with respiratory involvement, gastrointestinal tract and rarely renal involvement. In this latter, there are only two cases of IgA nephropathy, but both in dermatomyositis. On the other hand, we reported, for the first time, a case of IgA nephropathy in polymyositis.

THE AMERICAN JOURNAL of MEDICINE®

Cryoglobulinemic Glomerulonephritis in a Patient with Polymyositis

To the Editor:

Cryoglobulinemic vasculitis is a small-vessel vasculitis that usually involves skin, kidney, joint, and peripheral nerve. The hallmark of the disease is the presence of cryoglobulins, the immunoglobulins that precipitate in vitro at temperature <37°C. Mixed cryoglobulinemic vasculitis is one of its subtypes characterized by the presence of cryoglobulins that are a mixture of monoclonal immunoglobulin (Ig)M + polyclonal IgG or polyclonal IgM + polyclonal IgG.[1] More than 90% of cases of mixed cryoglobulinemic vasculitis are found in association with hepatitis C virus infection and a variety of autoimmune disorders.[2] However, mixed cryoglobulinemic vasculitis is rarely described in patients with polymyositis.

A 51-year-old woman with a history of polymyositis presented to our institute with progressive muscle weakness, rash, and fever. She was diagnosed with polymyositis (PM) 4 years earlier (confirmed by typical muscle histopathology) and was treated with steroids over a course of 1 year. She responded very well to the treatment. However, she was lost to follow-up and had not come to see her physician for 2 years. At this presentation, she reported a history of progressive proximal muscle weakness over the past 6 months accompanied by intermittent low-grade fever. Three weeks before the presentation, she also noticed red rash over her shins. She denied any history of dry eyes or dry mouth. Physical examination revealed a symmetric proximal muscle weakness and palpable purpura on her shins. No lymphadenopathy was detected. Initial laboratory investigation was remarkable for a markedly elevated creatine phosphokinase of 4230 IU/L, an elevated creatinine of 3.4 mg/dL (her creatinine was 1.1 mg/dL 2 years earlier), and an abnormal urinalysis with numerous dysmorphic red blood cells, red blood cell casts, and white blood cells. Computed tomography of the chest and abdomen did not reveal any lymph node enlargement or hydronephrosis. She underwent a renal biopsy, which revealed diffuse endocapillary proliferative glomerulonephritis and intracapillary immune thrombi, as well as endarteritis of the interlobular artery (**Figure**). Additional tests were remarkable for a positive cryoglobulin (monoclonal IgM kappa + polyclonal IgG at 5 g/L), negative anti-Ro/SSA, anti-La/SSB, and anti-hepatitis C virus antibody. She was diagnosed with cryoglobulinemic glomerulonephritis, and emergent plasmapheresis was initiated. She also received pulse intravenous methylprednisolone and cyclophosphamide. Her creatinine went down to baseline after the treatment and she recovered her muscle strength.

Cryoglobulins are generated by the clonal expansion of B cell as a result of lymphoproliferative disorders,

Funding: None.
Conflict of Interest: None.
Authorship: All authors had access to the data and a role in writing the manuscript.

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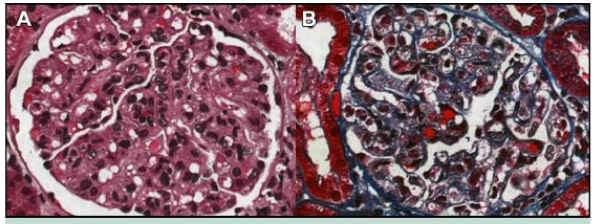

Figure (**A**) Hematoxylin & eosin: diffuse endocapillary proliferative glomerulonephritis with numerous infiltrating macrophages. (**B**) Trichrome stain: many intracapillary immune thrombi as well as segmental small subendothelial deposit.

A 51-year-old woman with a history of polymyositis presented to our institute with progressive muscle weakness, rash, and fever. She was diagnosed with polymyositis (PM) 4 years

earlierPhysical examination revealed a symmetric proximal mus cle weakness and palpable purpura on her shins

markedly elevated creatine phosphokinase of 4230 IU/L, an elevated creatinine of 3.4 mg/dL (her creatinine was 1.1 mg/dL 2 years earlier), and an abnormal urinalysis with numerous dysmorphic red blood cells, red blood cell casts,

She was diagnosed with cryoglobulinemic glomerulonephritis, and emergent plasmapheresis was initiated.

International Journal of Rheumatic Diseases

IgM nephropathy in a patient with dermatomyositis following COVID-19 vaccination: A case report

Mohammadkian Zarafshani, Maryam Loghman, Monir Sadat Hakemi, Fatemeh Nili, Sara Beikmohamadi Hezaveh, Marzie Tabatabaie Nejad, Seyedeh Tahereh Faezi

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https://doi.org/10.1111/1756-185X.14824

- A 38-year-old man was admitted to Shariati Hospital, affiliated with Tehran University of Medical Sciences, with proximal weakness of the upper and lower extremities that had developed in the preceding month after receiving the Sinopharm COVID-19 vaccine.
- ***IgM nephropathy developed subsequently***

- Dyck et al. five patients with biopsy-proven primary idiopathic PM, normal kidney function and 24 h urine protein excretions ranging from 2.1 to 4.1 g. Four of the five patients underwent a renal biopsy, ***mesangial proliferative glomerulonephritis***

- Pasquali et al. prospectively studied the renal manifestations of 12 patients with DM and eight with PM. The two patients with DM were found to have minimal change disease and mesangial proliferative glomerulonephritis, while another three patients with PM were found to have minimal change disease, amyloidosis, and membranoproliferative glomerulonephritis.

- A recent retrospective study of 65 Taiwanese patients with PM/DM hospitalized between 1992 and 2002 has found a varying degree of renal involvement in 14 (21.5%) of them Renal biopsy in two DM patients with overt proteinuria revealed ***IgA nephropathy*** in one and ***membranous nephropathy***

Thanks