CASE REPORT

PROSTATITIS AS AN INITIAL PRESENTATION FOR GRANULOMATOSIS WITH POLYANGIITIS

Nauman Ismat Butt[1], Raheel Younus[2], Muhammad Qasim Khan Tareen[3], Sumaira Farman[2], Nighat Mir Ahmad[2], Amna Ahmad[2]

[1]Department of Medicine & Allied, Azra Naheed Medial College Superior University Lahore, [2]Department of Rheumatology, National hospital and Medical Center Lahore, [3]Department of Medicine, Sandeman Provinical Hospital, Bolan University of Medical and Health Sciences Quetta-Pakistan

Granulomatosis with polyangiitis (GPA) is an uncommon pauci-immune small-vessel necrotising granulomatous vasculitis mostly seen in age 45–60 years. We present the case of a formerly healthy 44 years old male presenting with dysuria and intermittent urinary retention for 8 months, not responding to empirical antibiotic therapy and TURP. A prostate biopsy showed necrotising granulomatous prostatitis. Urinalysis demonstrated persistent pyuria and haematuria, but cultures showed no growth. Subsequently he complained of fever, cough, dyspnoea and skin ulcers. CT of the chest showed multiple cavitatory lesions and pleural effusion. On work up, c-ANCA was positive and a diagnosis of granulomatosis with polyangiitis was established. This depicts a rarely seen presentation of prostatitis as the initial feature of GPA.

Keywords: Granulomatosis with Polyangiitis; Prostatitis; Vasculitis; c-ANCA

Citation: Butt NI, Younus R, Tareen MQK, Farman S, Ahmad NM, Ahmad A. Prostatitis as an initial presentation for granulomatosis with polyangiitis. J Ayub Med Coll Abbottabad 2022;34(4 Suppl 1):1043–5.

DOI: 10.55519/JAMC-04-S4-10658

INTRODUCTION

Granulomatosis with polyangiitis (GPA), a rare autoimmune vasculitis of unknown aetiology, is a systemic disease with respiratory, ocular, gastrointestinal, musculoskeletal, cardiac, or neurological features and is strongly associated with Cytoplasmic Anti-neutrophil Cytoplasmic Auto-antibodies (c-ANCA).[1] Differentials of GPA include infections like tuberculosis, brucellosis, syphilis, spirochetes and other autoimmune conditions like sarcoidosis.[2] Granulomatosis with polyangiitis commonly affects upper respiratory passages (92%), lung parenchyma (85%) and kidneys (77%).[1] Prostate and urogenital involvement is considered rare, seen in up to 0.7%.[3] However, this contrasts with the 10% incidence of urogenital involvement reported by Huong.[4] This discrepancy might be partially explained by lack of symptom recognition, which is of importance since urogenital complaints may be the first manifestation of GPA. In GPA, prostatic presentations are non-specific and variable including prostatitis, urine obstruction or retention, repeated urinary infections, haematuria, or may be symptomless.[3,4] There are no clear diagnostic criteria for prostate involvement and a high level of clinical suspicion is necessary.

CASE REPORT

A previously healthy 44-year-old male presented to National Hospital and Medical Center Lahore with intermittent dull pain in lower back and groin, cloudy urine with dysuria, urinary frequency and urgency for 8 months. On initial investigation he repeatedly had raised inflammatory markers including ESR and CRP along with haematuria and pyuria on urine analysis with negative bacterial cultures.

He was initially managed on lines of urinary infection with oral antibiotics but due to intermittent urinary retention he was repeatedly catheterized, leading to urethral stricture formation and eventually TURP was done along with prostatic biopsy. Histological examination of biopsy sections revealed benign prostatic tissue showing epithelioid granulomas, giant cells, infarction, necrosis and dense pyogenic inflammation with foamy histiocytes and granulation tissue but no evidence of malignancy as shown in Figure-1& 2. However bacterial cultures were negative.

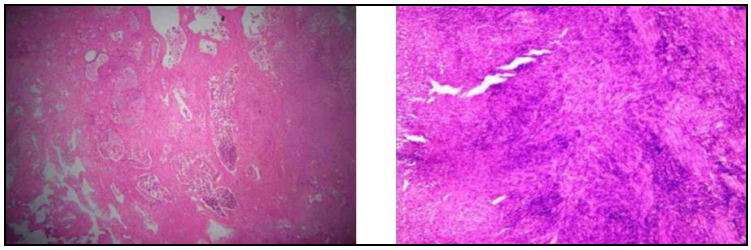

Figure-1 and Figure 2: Histopathology examination sections of Prostate biopsy

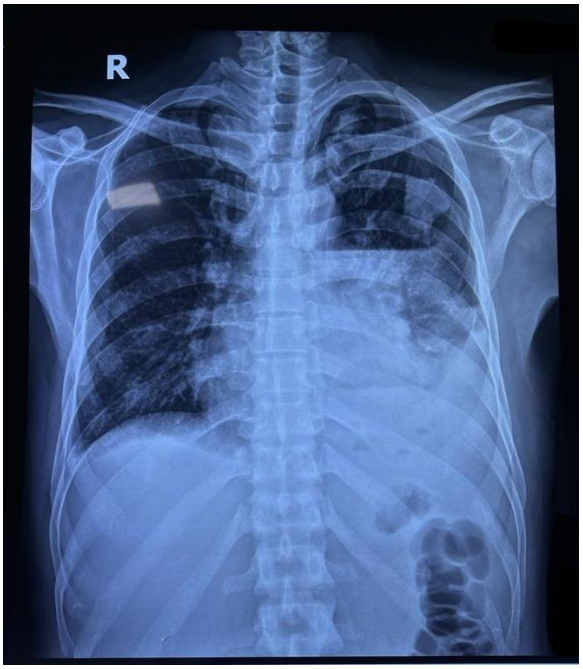

Figure-3: X-ray film (PA view) of the chest

He then developed low-grade fever, dry cough and shortness of breath which was progressively worsening in last 3 months leading to an initial diagnosis of COVID infection by GP but subsequently the diagnosis was revised to Pulmonary Tuberculosis on the chronicity of symptoms. He also complained of lethargy with weight loss of 12 Kg. His Chest X-ray was done as shown in Figure-3, followed by an HRCT chest that demonstrated a large loculated hydropneumothorax on the left side along with multiple large cavitating lesions in upper and middle lobe bilaterally, a mild right sided pleural effusion and consolidation of right lower lobe. Tube thoracostomy was done and pleural fluid analysis was done to show exudative fluid but gram and ZN staining were negative. His QuantiFERON-TB Gold (blood) and GeneXpert-PCR (pleural fluid) were negative. Pleural fluid cultures did not show any growth and he was started on anti-tuberculous therapy empirically.

For last 1 month he had developed multiple painful punched-out skin ulcers over both legs and arms, usually round in shape with well-defined even wound margins, the largest being over left elbow. On review of systems, he gave history of bilateral recurrent purulent ear discharge for 6 months resulting in senorineural hearing loss of left ear, and saddle-shaped nose deformity which he attributes to trauma, and an episode of painless red right eye 1 month ago for which he did not take any medical consultation. Further investigations revealed a high positive c-ANCA with normal p-ANCA, ACE levels, ANA, ENA and serum C3/C4 levels. Serology for Tuberculosis, Brucellosis, Hepatitis B, Hepatitis C, HIV and Syphilis were negative. He was diagnosed with Granulomatosus with Polyangiitis as evidenced by haematuria, prostatitis, lung cavitation, vasculitic skin ulcers and positive c-ANCA among other features like saddle nose and recurrent sinusitis. Multidisciplinary management plan was scheduled with rheumatology, pulmonology, urology and infectious disease expert. Intravenous methylprednisolone 1 gram was initiated for 3 days followed by prednisolone orally. After discussing the drugs with patient, oral methotrexate was started and rituximab 2000 mg was planned for induction of remission. Cyclophosphamide was also an option but aborted as the patient was not willing due to high risk of infections, and there were no life-threatening signs or symptoms.

DISCUSSION

GPA presents a diagnostic difficulty due to scarcity of its occurrence with differentials including a myriad of systematic granulomatous conditions, such as sarcoidosis, brucellosis, fungal and mycobacterial infections.[2] A considerable delay in diagnosis may occur due to non-specific clinical symptoms and complexity of GPA. Though rare, urogenital GPA most commonly affects the prostate but rarely may affect penis, testes, epididymis and seminal vesicles.[3,4] The primary urogenital presentation of our patient is not common in GPA. His prostate biopsy, showing granulomatous inflammation, was primarily accounted to infectious aetiology. Subsequently our patient developed upper and lower respiratory complaints. Being the most frequently affected organ, lung involvement may occur in up to 85% of GPA patients varying from life threatening to minima and asymptomatic.[2] The commonest ICU admission cause in vasculitis is haemoptysis, frequently seen in patients with diffuse bilateral infiltrates causing alveolar filling.[5]

Treatment of urogenital GPA is limited. As GPA is generally not evident on presentation, patients primarily receive surgical treatment rather than medical therapy. Medical therapy incorporates immunosuppressive therapy with systemic steroids and cyclophosphamide.[6] Rituximab has been shown to be an alternative approach in particular in cases where there is frequent recurrence or fear of cyclophosphamide toxicity.[7] Side effects of cyclophosphamide include infertility, bone marrow suppression, increased infection risk, gastrointestinal upset (nausea, vomiting, anorexia) and an increase in malignancy risk.[6] Additionally in life-threatening hemoptysis and deteriorating renal function, ventilator support, plasma exchange or pharesis and hemodialysis

have been used in spite of immune-suppression. Detailed collaboration of management with help of rheumatology, urology, pulmonology and infectious diseases specialists helped greatly in our case. Our patient responded well to treatment with rituximab and prednisone was slowly tapered off. After discussing with the patient, we agreed to manage in accordance with the recommendations of induction and maintenance of remission with rituximab in systemic ANCA-associated vasculitis trial[7] and plan to continue with intravenous rituximab 500 mg every 6 months.

The clinical features of GPA are often vague and pathological or serological investigations may not be reliable always. Whilst high titer c-ANCA has 99% specificity, sensitivity varies from 41–96% depending upon disease severity and extent.[1] Sensitivity of lung biopsy ranges from 10–80%, of nose or sinus biopsies 20% to 50% while that of prostate biopsy is not yet known.[8] While c-ANCA result may be employed as supplementary evidence for GPA diagnosis in cases with features limited to urogenital system, these results must be appreciated in context of clinical milieu as a whole. In conclusion, GPA may affect various systems and genitorurinary features can be the presenting symptoms. Timely diagnosis with early commencement of immune-suppressive therapy aids in inducing and maintaining remission. GPA and other autoimmune vasculitis should be considered by primary caregivers as aetiology for prostatitis particularly when presentation is unconventional and non-responsive to conventional therapy.

Consent: Informed consent was taken from the patient.

Conflict of Interest: None declared.

AUTHORS' CONTRIBUTION

This study was conceived and designed by RY, SF and NMA. NIB, MQKT and AA did the initial literature research. RY, AA and NIB did the data collection, assembly and patient assessment. NIB, RY and MQK were involved in manuscript writing. SF, NMA and AA did the final critical review and corrections. NIB is the corresponding author on behalf of all other authors

REFERENCES

1. Jennette JC, Falk RJ, Bacon PA, Basu N, Cid MC, Ferrario F, *et al*. 2012 revised International Chapel Hill Consensus Conference Nomenclature of Vasculitides. Arthritis Rheum 2013;65(1):1–11.
2. Alba MA, Moreno-Palacios J, Beça S, Cid MC. Urologic and male genital manifestations of granulomatosis with polyangiitis. Autoimmun Rev 2015;14(10):897–902.
3. Dufour JF, Le Gallou T, Cordier JF, Aumaître O, Pinède L, Aslangul E, *et al*. French Center-East Internists Group and the French Vasculitis Study Group. Urogenital manifestations in Wegener granulomatosis: a study of 11 cases and review of the literature. Medicine (Baltimore) 2012;91(2):67–74.
4. Huong DL, Papo T, Piette JC, Wechsler B, Bletry O, Richard F, *et al*. Urogenital manifestations of Wegener granulomatosis. Medicine (Baltimore) 1995;74(3):152–61.
5. Khan SA, Subla MR, Behl D, Specks U, Afessa B. Outcome of patients with small-vessel vasculitis admitted to a medical ICU. Chest 2007;131(4):972–6.
6. Dan D, Fischer R, Adler S, Förger F, Villiger PM. Cyclophosphamide: As bad as its reputation? Long-term single centre experience of cyclophosphamide side effects in the treatment of systemic autoimmune diseases. Swiss Med Wkly 2014;144:w14030.
7. Chung SA, Langford CA, Maz M, Abril A, Gorelik M, Guyatt G, *et al*. 2021 American College of Rheumatology/Vasculitis Foundation Guideline for the Management of Antineutrophil Cytoplasmic Antibody-Associated Vasculitis. Arthritis Care Res (Hoboken). 2021;73(8):1366–83.
8. Masiak A, Zdrojewski Z, Pęksa R, Smoleńska Ż, Czuszyńska Z, Siemińska A, *et al*. The usefulness of histopathological examinations of non-renal biopsies in the diagnosis of granulomatosis with polyangiitis. Reumatologia 2017;55(5):230–6.

Submitted: February 1, 2022	*Revised: February 22, 2022*	*Accepted: March 21, 2022*

Address for Correspondence:

Nauman Ismat Butt, Department of Medicine & Allied, Azra Naheed Medial College Superior University, 17-km Main Raiwind Road, Kot Araian Lahore-Pakistan

Cell: +92 345 465 1049

Email: nauman_ib@yahoo.com