International Journal of Science and Healthcare Research
DOI: https://doi.org/10.52403/ijshr.20210711
Vol.6; Issue: 3; July-Sept. 2021
Website: ijshr.com
Case Report *ISSN: 2455-7587*

Pleural Effusion in Churg-Strauss Syndrome Detected and Successfully Treated at a Tertiary Care Institute: Case Report

Uday Mahajan[1], Deepika Kapil[2]

[1]Senior Resident, Department of Medicine, Dr Rajendra Prasad Govt. Medical College, Kangra at Tanda, Himachal Pradesh, India
[2]Civil Hospital Nagrota Bagwan

Corresponding Author: Deepika Kapil

ABSTRACT

Churg-Strauss syndrome is a disorder of hypereosinophilia and systemic vasculitis in subjects with asthma and allergic rhinitis. Patient was admitted with chief complaints of cough without expectoration for a duration of three weeks without accompanying fever. X ray revealed pleural effusion 'right side'. Exudative pleural fluid with eosinophil predominance and peripheral eosinophilia. The patient was further investigated. No history suggestive of any drug use. Stool routine microscopy shows no parasites. ANA investigated found to be positive in 1: 80 titre in homogenous pattern. Patient was then found to be P-ANCA positive by immunofluorescence microscopy. Patient was successfully treated with oral prednisolone 40 mg for three months and subsequently improved with disappearance of symptoms.

Keywords: Churg-Strauss syndrome, Pleural effusion, hypereosinophilia

INTRODUCTION

In 1951, Churg and Strauss first described the syndrome in 13 patients who had asthma, eosinophilia, granulomatous inflammation, necrotizing systemic vasculitis, and necrotizing glomerulo-nephritis. [1] In 1990, the American College of Rheumatology (ACR) proposed the following six criteria for the diagnosis of Churg-Strauss syndrome.[2]

- Asthma (wheezing, expiratory rhonchi)
- Eosinophilia of more than 10% in peripheral blood
- Paranasal sinusitis
- Pulmonary infiltrates (may be transient)
- Histological proof of vasculitis with extravascular eosinophils
- Mononeuritis multiplex or polyneuropathy

The presence of four or more criteria yields a sensitivity of 85% and a specificity of 99.7%. The 1994 Chapel Hill consensus conference on the classification of vasculitides did not modify the ACR criteria.[3]

CASE REPORT

A 45 year female resident of Vilagel Godab a rural area in suburban Kangra admitted on date 26 May 2016 at Dr. RPGMC Tanda with chief complaints of cough without expectoration for duration of three weeks without accompanying fever. No history suggestive of diurnal variation of cough or haemoptysis or rhinorrhea or sinusitis.

Auscultation revealed expiratory wheeze bilaterally with absent breath sounds infraaxillary, infrascapular area on the left side of chest X ray revealed pleural effusion 'right side'

Blood investigations revealed a total leukocyte count of 9300 /ul with eosinophils comprising 12 percent of total leukocyte

count. Peripheral eosinophilia and expiratory wheeze lead to a presumptive diagnosis of allergic component to cough. Absolute eosinophil count was investigated to be 0.75×1000/ ul (with peripheral eosinophil count between 500-2000 favouring a possibility of allergic asthma versus pulmonary infiltrates with eosinophilia syndromes)

Pleural effusion was tapped, with fluid LDH 1397 /serum LDH 338 and fluid protein 5.3/serum protein 7.9 with a total WBC count of 3260 with a differential containing 27% eosinophils and 61% lymphocytes and 12% neutrophils.

Exudative pleural fluid with eosinophil predominance and peripheral eosinophilia the patient was further investigated No history suggestive of any drug use stool routine microscopy show no parasites.

ANA investigated found to be positive in 1:80titre in homogenous pattern. Patient was then found to be P-anca positive by immunofluorescence microscopy.

Patient was successfully treated with oral prednisolone 40 mg for three months and subsequently improved with disappearance of symptoms.

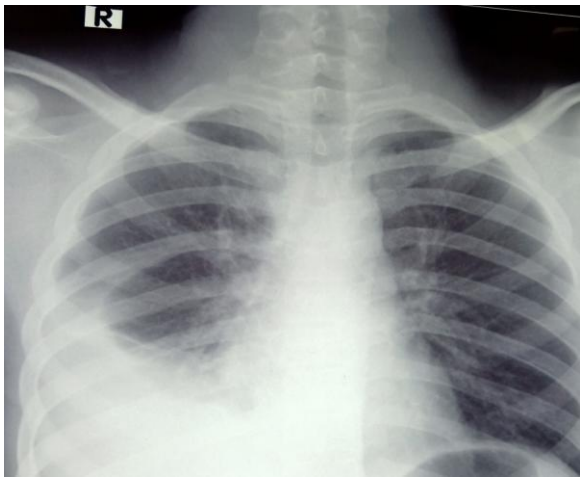

Figure 1: showing right sided pleural effusion

DISCUSSION

Churg-Strauss syndrome is a disorder of hypereosinophilia and systemic vasculitis in subjects with asthma and allergic rhinitis. Pleural effusions are commonly reported as a manifestation of this syndrome; however, the cellular and biochemical characteristics have not been well described.[4,5]

Patients in whom CSS goes untreated have a poor prognosis; up to 50% die within 3 months after the onset of vasculitis. As such, efforts at early recognition and treatment are important. Corticosteroid generally leads to dramatic clinical improvement, with disease stabilization or cure.[6,7] Prednisone 0.5-1.5 mg/kg/day is given for 6-12 weeks, aiming to eliminate constitutional symptoms and cardiac, renal, neurological, or other vasculitic manifestations. Treatment with cytotoxic immunosuppressive agents such as azathioprine, cyclophosphamide, high-dose methylprednisolone, or chlorambucil should be considered in patients whose condition fails to improve with steroids or who have severe systemic involvement or poor prognostic features, including cardiac or gastrointestinal involvement, renal insufficiency, or proteinuria >1 g/day.[8,9,10]

CONCLUSION

Although common differential diagnosis for pleural effusion is considered, background of bronchial asthma must alert both the clinicians and pathologists about the possibility of a CSS.

Conflict of Interest: All authors declare they have no conflict of interest.

Acknowledgement: None

Financial Disclosure: None

Source of Funding: None

REFERENCES

1. Churg J, Strauss L. Allergic granulomatosis, allergic angiitis, and periarteritis nodosa. *Am J Pathol*. 1951 Mar-Apr. 27(2): 277-301. [Medline].
2. Masi AT, Hunder GG, Lie JT, et al. The American College of Rheumatology 1990 criteria for the classification of Churg-Strauss syndrome (allergic granulomatosis

and angiitis). *Arthritis Rheum*. 1990 Aug. 33(8):1094-100. [Medline].
3. Jennette JC, Falk RJ, Andrassy K, et al. Nomenclature of systemic vasculitides. Proposal of an international consensus conference. *Arthritis Rheum*. 1994 Feb.37 (2):187-92. [Medline].
4. 1 Lanham JG, Elkon KB, Pusey CD, Hughes GR. Systemic Vasculitis with asthma and eosinophilia: a clinical approach to the Churg-Strauss syndrome. Medicine 1984; 63:65-81
5. Crofton J~Livingstone JL, Oswald NC, Roberts ATM. Pulmonary eosinophilia. Thorax 1952; 7:1-35
6. Harkavy J. Allergic vasculitis. J Allergy 1943; 14 Lanham JG, Elkon KB, Pusey CD, Hughes GR. Systemic vasculitis with asthma and eosinophilia: A clinical approach to the Churg-Strauss syndrome. Medicine (Baltimore) 1984;63:65-81
7. Guillevin L, Lhote F, Gayraud M, Cohen P, Jarrousse B, Lortholary O, *et al.* Prognostic factors in polyarteritis nodosa and Churg-Strauss syndrome. A prospective study in 342 patients. Medicine (Baltimore) 1996; 75:17-28.
8. Abu-Shakra M, Smythe H, Lewtas J, Badley E, Weber D, Keystone E. Outcome of polyarteritis nodosa and Churg-Strauss syndrome. An analysis of twenty-five patients. Arthritis Rheum 1994;37:1798-803.
9. Chow CC, Li EK, Lai FM. Allergic granulomatosis and angiitis (Churg-Strauss syndrome): Response to 'pulse' intravenous cyclophosphamide. Ann Rheum Dis 1989; 48:605-8.
10. Guillevin L, Lhote F, Jarrousse B, Fain O. Treatment of polyarteritis nodosa and Churg-Strauss syndrome. A meta-analysis of 3 prospective controlled trials including 182 patients over 12 years. Ann Med Interne (Paris) 1992;143:405-16.

How to cite this article: Mahajan U, Kapil D. Pleural effusion in Churg-Strauss syndrome detected and successfully treated at a tertiary care institute: case report. *International Journal of Science & Healthcare Research.* 2021; 6(3): 63-65. DOI: *https://doi.org/10.52403/ijshr.20210711*

******