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A SINGLE CENTRE EXPERIENCE ON ETIOLOGY AND OUTCOME OF DIFFUSE ALVEOLAR HEMORRHAGE

General Medicine

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ABSTRACT

This study presents a retrospective analysis of patients diagnosed with Diffuse Alveolar Hemorrhage under the departments of Rheumatology and General medicine in Travancore Medical College, Kollam, between July 2021 to July 2023.The research primarily focuses on the varied etiology, clinical presentations and outcome of patients diagnosed with DAH. Diffuse alveolar hemorrhage (DAH) is a rare, life-threatening condition caused by injury / inflammation to the arterioles, venules or alveolar septal capillaries. Several systemic autoimmune conditions, anticoagulation, heart failure, infections & inhaled toxins have been implicated to result in DAH. DAH is a fatal condition occurring secondary to immune and non – immune etiologies. Our data showed that immune mediated DAH has a better prognosis than non-immune DAH. Early diagnosis and use of aggressive management is paramount to reduce mortality.

KEYWORDS

Diffuse alveolar hemorrhage, immune, non-immune

INTRODUCTION

Diffuse alveolar hemorrhage (DAH) is a rare, life-threatening condition caused by injury / inflammation to the arterioles, venules or alveolar septal capillaries. Depending on the underlying disease process, DAH can occur due to pulmonary capillaritis, bland alveolar hemorrhage & diffuse alveolar damage. Several systemic autoimmune conditions, anticoagulation, heart failure, infections & inhaled toxins have been implicated to result in DAH. Reported prognosis of DAH is poor, mortality rate ranging between 20 - 100%.

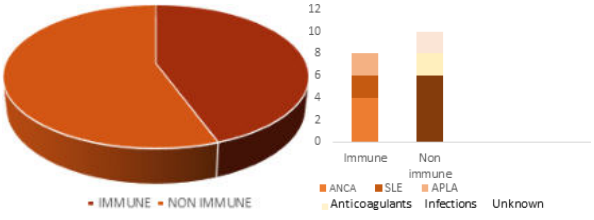
OBJECTIVES

To study the varied etiology, clinical presentations and outcome of patients diagnosed with DAH.

METHODS

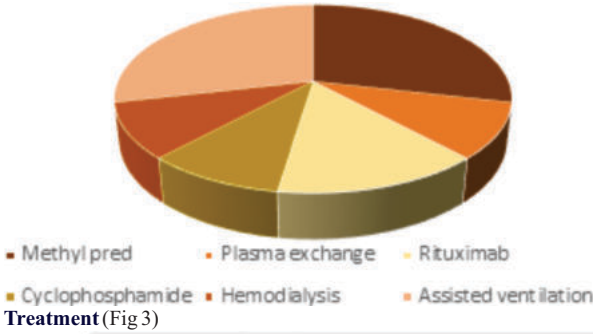
Records of patients diagnosed with Diffuse Alveolar Hemorrhage under the department of Rheumatology and General medicine in Travancore Medical College, Kollam, between July 2021 to July 2023 were collated. Patients ≥ 16 years of age with either imaging / bronchoscopic evidence of DAH were included in this study. Demography, symptoms at presentation, investigations, treatment and outcomes were retrospectively collected and analysed.

RESULTS

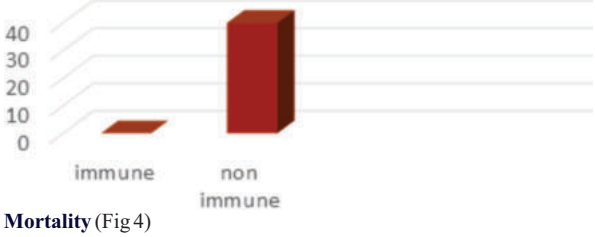


ETIOLOGY (Fig 1 &2)

Among the 7239 patients admitted during the study period, 18 patients with DAH (male: female ratio of 5:4) with median (IQR) age of 48 (30-56) years were included in this study. Systemic autoimmune rheumatic diseases (SARDs) conditions contributed to 8 (44%) patients of DAH; 4 (50%) patients with Antineutrophilic cytoplasmic antibody (ANCA) associated vasculitis, 2 (25%) with Systemic Lupus Erythematosus (SLE) and 2 (25%) with Antiphospholipid syndrome. The rest 10 (56%) patients developed DAH due to non-immune causes; 6 (60%) had an underlying infection, 2(20%) was taking anticoagulation and 2 unknown etiology. DAH was the presenting manifestation in 14 (77.8 %) patients, amongst whom only 6 (33.3 %) presented with haemoptysis. Evidence of DAH was obtained by imaging in 16 (88.9%) and by bronchoscopic lavage in 10 (55.5%) patients. 12 (66.6%) patients required assisted ventilation during their hospital stay. Deranged renal parameters was seen in 16 (88.8%) patients, in whom 4 (25%) underwent hemodialysis. 12 (66.7%) patients received methylprednisolone pulse therapy. 4 (22.2%) underwent plasma exchange, 6 (33.3%) received Rituximab and 4 (22.2%) received cyclophosphamide. All 8 (100%) patients with SARD with DAH survived. Amongst the 10 patients with DAH due to non-immune causes, 4 (40%) expired within 3 days of admission.



Treatment (Fig 3)



Mortality (Fig 4)

CONCLUSION

DAH is a fatal condition occurring secondary to immune and non – immune etiologies. Our data showed that immune mediated DAH had a better prognosis than non-immune DAH. Early diagnosis and use of aggressive management is paramount to reduce mortality.

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