MANAGEMENT OF PULMONARY HAEMORRHAGE

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Presentation

A 76-year-old female, presented to A&E with one day Hx of SOB & coughing out streaks of blood & mild epistaxis.
She had presented twice in the past six months with left lower leg cellulitis. She was treated with oral ABX and had negative US doppler scan to exclude DVT. However, her ANCA test was positive . She had past medical history of glaucoma, SVT, HTN, dyslipidaemia.

Assessment

Patient was admitted to Resus. On assessment she was hypoxic requiring HFNC 50L, FIO2 60%. Had few mouth ulcers. On chest auscultation had bilateral crepitations.
T-36.8 , pulse-97, BP-109/55, RR-20, SPO2-96 on FIO2-60%

Investigation

Date	18/03/23	21/03/23	25/03/23
CRP	182	42	42
Creatinine	53	50	44
Albumin	18	20	22
Haemoglobin	68	84	88
WCC	13.8	19.3	17.6

BNP-896, TROP-46, COVID-19 – Negative, ECG normal sinus rhythm

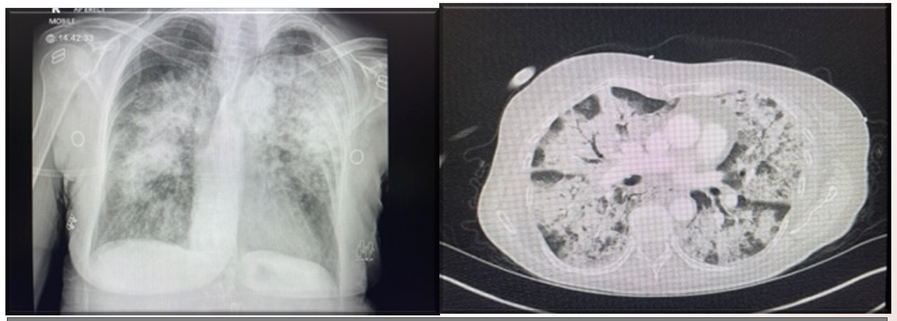

Fig 1 : X-Ray on presentation Fig 2: Scan on presentation

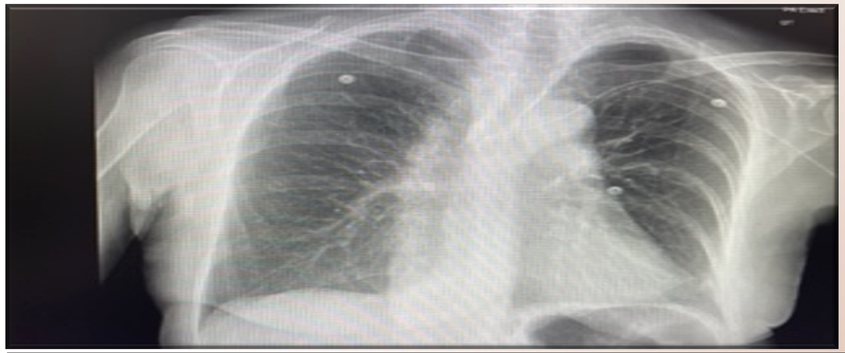

Fig 3 : X-Ray after 10 days of treatment

Management

With the background hx of positive ANCA & sudden onset of symptoms requiring high flow oxygen, patient was started on antibiotics. Furthermore, atypical respiratory investigation & CTPA were requested.
Patient was initially admitted under medical team and commenced her on 1gm of Methyl Pred. Multidisciplinary team opinions were sought. However, due to persistent worsening of oxygen requirement, patient was admitted to ITU and had close monitoring. In-total , she had three doses of Methyl Pred.
On the fifth day, patient was shifted to ward and was requiring less oxygen. Vasculitis MDM was conducted, & they advised to commence her on Cyclophosphamide. In total, patient had three doses of Cyclophosphamide and recovered well.

Discussion

PH has a high mortality rate of 30% to 40%. Massive PH can destroy the entire lung, & the severe bleeding can cause rapid blockage of the airway resulting in severe hypoxia & shock or even death. It is associated with positive ANCA which is seen most of the cases. ANCA associated vasculitis consists of three diseases GPA, MPA and EGPA. GPA is a common cause of diffuse alveolar haemorrhage representing 45% of the cases.

Most patients have respiratory symptoms, so chest X-Ray & CT scans are useful. CT scan findings would be, bilateral ground-glass opacities and consolidations that are usually prominent in perihilar areas with a relative sparing of the subpleural pulmonary parenchyma, apical region, CP angles.
However, diagnosis is based on a combination of clinical manifestations, positive ANCA serology and sometimes biopsy of the involved organ. Bronchoscopy with BAL is useful in atypical cases.

Intensive care and monitoring with low threshold for intubation and ventilation in severe hypoxic conditions. Treatment OF PH include steroids, cyclophosphamide, rituximab, plasma exchange.

References

1. https://www.msdmanuals.com/en-pt/professional/pulmonary-disorders/diffuse-alveolar-hemorrhage-and-pulmonary-renal-syndrome/idiopathic-pulmonary-hemosiderosis
2. Ioachimescu, O. C.; Stoller, J. K. (2008). "Diffuse alveolar haemorrhage: Diagnosing it and finding the cause". Cleveland Clinic Journal of Medicine. 75 (4): 258, 260, 264–5 passim. doi:10.3949/ccjm.75.4.258. PMID 18491433. S2CID 20782795.
3. Park, Moo Suk (April 2013). "Diffuse Alveolar Haemorrhage". Tuberculosis and Respiratory Diseases. 74 (4): 151–62. doi:10.4046/trd.2013.74.4.151. PMC 3651925. PMID 23678356.

Key Learning points

- Not all abnormal X-Rays are Pneumonia.
- Judicious use of pulse Methyl Prednisolone makes wonders.
- Multidisciplinary input required with early escalation to ITU.
- Use of Cyclophosphamide in the treatment of severe form of vasculitis would be useful.
- Keep a low threshold for pulmonary haemorrhage in a patient with bilateral pneumonia.
- Haemoptysis is absent in 1/3RD of the cases.