

Clinical Image

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A rare case of purple pleural effusion

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Description

30 years old male from Lalitpur district, presented to our tertiary care centre with complaints of pleuritic chest pain in the left subcostal region for three days, and shortness of breath of MMRC gradell aggravated by lying on left lateral decubitus for one day. Examination revealed decreased chest expansion on left side, stony dull note on percussion on left inframammary, infra axillary area and decreased intensity of vesicular breath sounds on the same areas on auscultation. Chest X-ray revealed left sided moderate pleural effusion (Figure 1).

Initial pleural fluid analysis showed reddish color (hemorrhagic) and of exudative nature. Sputum workup for gram stain, acid fast bacilli, KOH, and culture was normal. Chest tube insertion was done in view of hemothorax and patient was managed with empirical antibiotics. After 7 days of chest tube insertion, Purple discoloration was noted in the intercostal drainage tube (Figure 2). Repeat pleural fluid analysis showed exudative origin, with normal ADA, and no growth in culture. The Purple colour persisted till the Intercostal tube was insitu.

Purple discoloration of the pleural fluid is a rare phenomenon that occurs most likely due to breakdown of tryptophan



Figure 1: Chest X-ray showing left sided pleural effusion.

metabolites into indoxyl by bacterial phosphatase and sulfatases, which break down into indigo (blue) and indirubin (red), a pathophysiology analogous to the purple urine bag syndrome [1]. Previous case report of similar purple effusion was noted with *Acinetobacter* infection [2].



Figure 2: Purple pleural fluid in intercostal drainage.

References

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2. Purple Pleural Fluid Secondary to *Acinetobacter baumannii*. 2023. <https://doi.org/10.1136/bcr-2023-255719>.