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Supplementary file

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CARE Checklist — Completed

"Pulmonary Siderosis Presenting with a Miliary Nodular Pattern: An Interesting Case Report"

Topic	Item	Checklist Item Description	Reported on Line / Where Addressed
Title	1	The diagnosis or intervention of primary focus followed by the words "case report"	"Pulmonary Siderosis Presenting with a Miliary Nodular Pattern: An Interesting Case Report"
Key Words	2	2 to 5 key words that identify diagnoses or interventions in this case report, including "case report"	Pulmonary siderosis; Prussian blue stain; miliary nodules; bronchoalveolar lavage; occupational lung disease
Abstract – Introduction	3a	What is unique about this case and what does it add to the scientific literature?	Pulmonary siderosis presenting as diffuse miliary nodular pattern, mimicking miliary TB in a TB-endemic region with prior extrapulmonary TB history
Abstract – Clinical Findings	3b	Main symptoms and/or important clinical findings	Cough, low-grade fever, exertional dyspnea; bilateral diffuse fine inspiratory crackles; SpO2 97% on room air
Abstract – Diagnosis & Outcomes	3c	The main diagnoses, therapeutic interventions, and outcomes	Pulmonary siderosis confirmed by BAL Prussian blue staining; exposure cessation advised; inhaled bronchodilators (Formoterol/Glycopyrronium); symptom improvement at 3 months
Abstract – Conclusion	3d	Conclusion — What is the main take-away lesson(s) from this case?	Occupational history and BAL with Prussian blue staining are essential to distinguish pulmonary siderosis from miliary TB and avoid unnecessary antitubercular therapy
Introduction	4	One or two paragraphs summarizing why this case is unique (may include references)	Introduction section: describes pulmonary siderosis as rare occupational pneumoconiosis; notes striking miliary radiological pattern in a patient with prior extrapulmonary TB creating a diagnostic dilemma; references [1–9]
Patient Information – Demographics	5a	De-identified patient specific information	51-year-old Indian male, former stainless-steel factory worker (10 years), currently employed as security guard
Patient Information – Symptoms	5b	Primary concerns and symptoms of the patient	Cough with mucoid expectoration (10 days), low-grade evening fever (5–6 days), mild exertional dyspnea (mMRC Grade I, static for 1 month)

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Patient Information – History	5c	Medical, family, and psycho-social history including relevant genetic information	Prior extrapulmonary TB (cervical lymphadenopathy) treated 8 months earlier; completed full 6-month ATT; no diabetes, hypertension, IHD, or other occupational exposures; non-smoker; no TB contact history
Patient Information – Past Interventions	5d	Relevant past interventions with outcomes	Completed 6-month antitubercular therapy for extrapulmonary TB with no documented pulmonary involvement at that time
Clinical Findings	6	Describe significant physical examination and important clinical findings	Afebrile, hemodynamically stable; SpO2 97% on room air; bilateral diffuse fine inspiratory crackles; no cyanosis, clubbing, or pedal edema; routine haematological and biochemical investigations within normal limits
Timeline	7	Historical and current information from this episode of care organized as a timeline	10 years iron-factory exposure → cessation few months prior → 8 months ago: extrapulmonary TB diagnosed and ATT completed → current presentation: 10 days cough, 5–6 days fever, 1 month dyspnea → investigations → diagnosis → 3-month follow-up showing improvement
Diagnostic Assessment – Testing	8a	Diagnostic testing (such as PE, laboratory testing, imaging, surveys)	Chest X-ray: diffuse miliary nodules bilaterally; HRCT thorax: diffuse miliary nodules all lobes, no fibrosis/cavitation; BAL: AFB smear, LJ culture, MGIT culture, bacterial/fungal cultures, malignant cells all negative; Prussian blue stain: numerous hemosiderin-laden macrophages; TBLB: negative for AFB/malignancy
Diagnostic Assessment – Challenges	8b	Diagnostic challenges (such as access to testing, financial, or cultural)	Significant diagnostic dilemma due to (1) TB-endemic region, (2) prior extrapulmonary TB history, (3) miliary HRCT pattern indistinguishable from miliary TB on imaging alone
Diagnostic Assessment – Diagnosis	8c	Diagnosis (including other diagnoses considered)	Final diagnosis: Pulmonary siderosis. Differentials considered: miliary tuberculosis (excluded by negative cultures and microbiological evaluation), idiopathic pulmonary hemosiderosis, chronic alveolar hemorrhage, mixed-dust pneumoconiosis

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Diagnostic Assessment – Prognosis	8d	Prognosis (such as staging in oncology) where applicable	Good prognosis in pure siderosis; regression of radiological findings documented after exposure cessation; no fibrosis identified on HRCT
Therapeutic Intervention – Type	9a	Types of therapeutic intervention (such as pharmacologic, surgical, preventive, self-care)	Occupational: cessation of iron dust exposure, use of protective respiratory equipment at work; Pharmacologic: inhaled bronchodilator combination (Formoterol + Glycopyrronium); Supportive care
Therapeutic Intervention – Administration	9b	Administration of therapeutic intervention (such as dosage, strength, duration)	Formoterol 4.8 mcg + Glycopyrronium 9 mcg inhaled twice daily for 1 month
Therapeutic Intervention – Changes	9c	Changes in therapeutic intervention (with rationale)	Not applicable; initial management continued without modification
Follow-up – Outcomes	10a	Clinician and patient-assessed outcomes (if available)	At 3-month follow-up: symptoms improved (cough, dyspnea); patient reported subjective improvement
Follow-up – Test Results	10b	Important follow-up diagnostic and other test results	Repeat imaging at 3 months showed no progression of miliary nodules
Follow-up – Adherence	10c	Intervention adherence and tolerability (How was this assessed?)	Assessed at outpatient follow-up; patient adhered to exposure avoidance and bronchodilator therapy; no tolerability issues reported
Follow-up – Adverse Events	10d	Adverse and unanticipated events	None reported
Discussion – Strengths & Limitations	11a	A scientific discussion of the strengths AND limitations associated with this case report	Strengths: detailed occupational history, comprehensive microbiological TB exclusion, confirmatory cytological diagnosis (Prussian blue). Limitations: absence of histopathology (surgical/transbronchial biopsy); relatively short imaging follow-up period
Discussion – Literature	11b	Discussion of the relevant medical literature with references	Discussion section with references [1–10]; covers pathophysiology, HRCT patterns, BAL utility, TB mimicry, management, and prognosis
Discussion – Scientific Rationale	11c	The scientific rationale for any conclusions (including assessment of possible causes)	Iron particles inhaled → engulfed by alveolar macrophages → hemosiderin deposits → Prussian blue positive; macrophage activation

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			→ pro-fibrotic cytokines; miliary pattern from diffuse fine-particle deposition; TB excluded by negative cultures and imaging stability
Discussion – Conclusion	11d	The primary take-away lessons of this case report (without references) in a one paragraph conclusion	Conclusion section: pulmonary siderosis can closely mimic miliary TB; critical importance of occupational history; BAL with Prussian blue staining can prevent misdiagnosis and unnecessary ATT
Patient Perspective	12	The patient should share their perspective in one or two paragraphs on the treatment(s) they received	Not given by the patient
Informed Consent	13	Did the patient give informed consent? Please provide if requested	YES — Ethics Statement included: "Written informed consent for publication was obtained from the patient."

Note: Line numbers refer to sections/paragraphs in the submitted manuscript rather than exact line numbers, as the document was provided without line numbering.