



Research Article

Section: Radiodiagnosis

Role of High-Resolution Computed Tomography Thorax in Evaluation of Spectrum of Lung Changes in Population Susceptible to Occupational Lung Disorders

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HIGHLIGHTS

- HRCT characterizes lung disease
- Silicosis was most common
- Progressive fibrosis was frequent
- Cough was predominant symptom
- Occupational history aids diagnosis

Key Words:

Occupational lung disease
 High-resolution computed tomography
 Silicosis
 Pneumoconiosis

ABSTRACT

Introduction: Occupational lung diseases are an important group of preventable respiratory disorders caused by prolonged exposure to dust, fumes, and other occupational hazards. High-resolution computed tomography (HRCT) provides superior characterization of pulmonary parenchymal abnormalities compared with conventional chest radiography. **Aim & Objective:** This study aimed to evaluate the spectrum of HRCT findings in patients with respiratory symptoms and significant occupational exposure and to assess the relationship between occupational exposure and radiological abnormalities. **Material & Methods:** A prospective observational study was conducted in the Department of Radiodiagnosis, Gajra Raja Medical College, Gwalior, from April 2023 to March 2025. Seventy-two patients with respiratory complaints and occupational exposure of at least 5 years were evaluated using clinical history, chest radiography, and HRCT thorax. Patients with non-occupational causes of pulmonary disease and those not providing consent were excluded. The HRCT findings were analyzed and correlated with occupational exposure and clinico-radiological diagnosis. **Results:** The mean age of participants was 44.54 ± 8.50 years, with a mean occupational exposure of 17.44 ± 7.74 years. Cough was the commonest symptom (51.39%). On chest radiography, diffuse upper-zone nodular opacities were most frequent (25%). HRCT demonstrated progressive fibrosis in 47.23%, traction bronchiectasis in 34.73%, centrilobular nodules in 25%, consolidation in 19.45%, and ground-glass opacities in 16.67%. Silicosis was the most common clinic-radiological diagnosis (34.72%), followed by progressive massive fibrosis (19.4%) and UIP (15.3%). **Conclusion:** HRCT effectively demonstrates the diverse spectrum of occupational lung abnormalities and provides greater characterization of parenchymal disease than chest radiography. Early recognition of characteristic HRCT patterns, combined with occupational history, can facilitate timely diagnosis, exposure reduction, and prevention of progressive pulmonary fibrosis.



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INTRODUCTION

The lungs possess an extensive surface area, rich vascularity, and a thin air-blood barrier, making them particularly vulnerable to environmental and occupational agents that may produce local, systemic, or immunological toxic effects. Consequently, occupational and environmental exposures should be considered in the differential diagnosis of major respiratory disease patterns. According to the cited WHO estimate, approximately 2 million deaths in India were directly or indirectly associated with occupational conditions [2]. Occupational lung disease (OLD) is among the most frequently diagnosed work-related conditions after occupational injuries and encompasses a broad spectrum of disorders resulting from inhalation or ingestion of dust, fumes, and noxious chemicals [1-3].

Occupational lung diseases include pneumoconiosis, asbestosis-related pleural and parenchymal disease, chemical pneumonitis, occupational infections, hypersensitivity pneumonitis, and organic dust toxic syndrome [3]. The causative agents may be organic or inorganic dusts, gases, fumes, and various chemicals, with the clinical and radiological manifestations depending substantially on the nature, intensity, and duration of exposure [4]. Some occupational disorders have characteristic imaging appearances; however, many lack pathognomonic features and may closely resemble non-occupational pulmonary diseases. Furthermore, the same occupational exposure may produce distinct acute and chronic manifestations. Acute diseases generally develop within a relatively short and predictable interval after exposure, whereas chronic occupational diseases may have prolonged latency periods extending over several years [1].

The amount and duration of occupational exposure are important considerations because exposure intensity may influence disease severity, disease frequency among exposed workers, and the rate

of disease development, although these relationships may not necessarily occur simultaneously [1]. Establishing an occupational etiology therefore requires a comprehensive occupational history, identification of exposure to a recognized disease-producing agent, an appropriate latency period, compatible clinical and physiological findings, characteristic radiological features, and exclusion of alternative causes of interstitial or diffuse lung disease. This is particularly important because the clinical, radiological, and pathological manifestations of occupational diseases may be indistinguishable from their non-occupational counterparts due to the limited range of pulmonary responses to injury [3].

Diagnosis is further complicated by the frequently nonspecific nature of respiratory symptoms. Nevertheless, occupational lung diseases may demonstrate stereotypical radiological patterns that can provide important diagnostic clues. Radiologists therefore have a crucial role in recognizing these patterns, correlating them with occupational exposure, and facilitating early diagnosis. Timely identification is clinically important because removal or reduction of exposure represents a fundamental component of preventing disease progression and reducing subsequent morbidity [5]. Imaging is central to the evaluation of suspected occupational lung disease. Chest radiography remains an important initial and widely available investigation and may demonstrate characteristic or highly suggestive abnormalities when interpreted alongside an appropriate exposure history. However, conventional radiography has recognized limitations, particularly its relatively low sensitivity and nonspecific findings, and may fail to detect a proportion of pathologically established pulmonary abnormalities. These limitations are particularly relevant in early or subtle parenchymal disease [6,7].

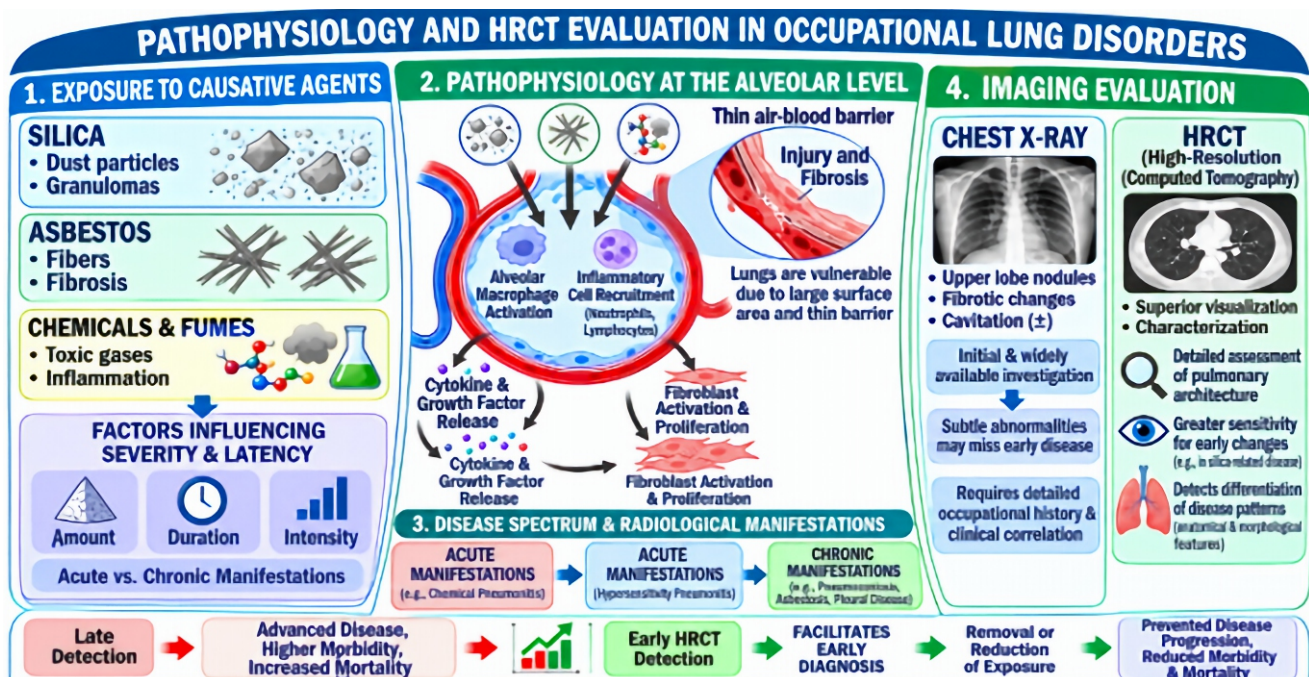


Figure 1: Pathophysiology and HRCT findings in occupational lung disorders.

High-resolution computed tomography (HRCT) provides more detailed assessment of pulmonary architecture and has demonstrated greater sensitivity for detecting early occupational lung abnormalities, particularly in silica-related disease. Compared with chest radiography, HRCT provides superior visualization and characterization of parenchymal abnormalities, improves differentiation of disease patterns, and more accurately demonstrates the anatomical distribution and morphological features of occupational lung disease. Its ability to depict abnormalities more closely related to the underlying pathological process makes it particularly valuable in the evaluation of diffuse and interstitial lung disorders [8,9].

Despite these advantages, the routine use of CT for screening remains debated because of its higher cost, limited availability, & radiation exposure [6]. Moreover, a universally adopted comprehensive system for classification and quantitative assessment of occupational lung abnormalities on HRCT is not yet widely implemented. Variability in terminology and limited awareness of characteristic imaging manifestations may further contribute to diagnostic uncertainty. Therefore, accurate interpretation of HRCT findings in conjunction with detailed occupational history and clinical information is essential for improving diagnostic confidence, identifying disease at an earlier stage, & supporting appropriate reduction or removal of occupational exposure [10].

Figure 1: Pathophysiological Mechanisms and HRCT Findings in Occupational Lung Disease.

The study aimed to identify the various pulmonary pathologies associated with occupational exposure on HRCT chest and to assess the correlation between the duration of occupational exposure and HRCT radiological findings, thereby facilitating early identification and reduction of exposure to occupational hazards and ultimately reducing the morbidity and mortality associated with occupational lung diseases.

MATERIAL & METHODS

This prospective study was conducted at the Department of Radiodiagnosis at Gajra Raja Medical College, Gwalior from April 2023 to March 2025. Ethical approval has been obtained from the Ethical Approval Committee of Gajra Raja Medical College, Gwalior.

Study Population

The study population comprised patients presenting with respiratory complaints and a significant occupational history of at least 5 years of exposure, referred to the Department of Radiodiagnosis, JAH, and enrolled as cases. Patients who did not provide informed consent were excluded. Additionally, patients with clinical symptoms or CT/X-ray findings suggestive of pulmonary disease due to infection, trauma, congenital disorders, smoking, connective tissue diseases, or other conditions producing similar manifestations were excluded.

Data Analysis

Data were systematically compiled and analyzed using descriptive statistical methods to summarize demographic, occupational, clinical, chest radiographic, & HRCT findings. Frequencies and percentages were calculated for categorical variables, while mean and standard deviation were used for continuous variables such as age and duration of occupational exposure. HRCT abnormalities were compared with chest radiographic findings and occupational exposure patterns, and clinicoradiological diagnoses were assessed according to observed imaging characteristics and disease severity.

RESULTS

The present prospective study was conducted in the Department of Radiodiagnosis, G.R.M.C., Gwalior, and included 72 patients with respiratory complaints and significant occupational exposure evaluated between April 2023 and March 2025. The mean age of the participants was 44.54 ± 8.50 years, ranging from 30 to 60 years, with the 31-40 and 41-50 year age groups being most common (34.72% each), followed by 51-60 years (26.39%) and approximately 30 years (4.17%). All participants were male. Regarding occupation, 33.3% were farmers, 25% factory workers, 22.2% stone workers, and 19.4% mill workers. The mean duration of occupational exposure was 17.44 ± 7.74 years, with exposure ranging from 5 to 30 years. Clinically, cough was the most frequent complaint (51.39%), followed by dyspnoea (27.78%), severe dyspnoea, fever, and weight loss (19.45% each), progressive dyspnoea (15.28%), sputum production (11.12%), dry cough (5.56%), and shortness of breath (4.17%); 8.34% reported no complaints. Chest radiography demonstrated diffuse nodular opacities in the upper zones as the most common finding (25%), followed by massive fibrosis with upper-zone predominance (19.4%), reticulonodular pattern (15.3%), patchy opacities (12.5%), normal chest radiograph (9.7%), lobar consolidation (6.9%), ground-glass opacities (4.2%), increased bronchovascular markings (4.2%), and centrilobular nodules (2.8%). Overall, the clinical history, occupational exposure profile, chest radiographic findings, & subsequent HRCT evaluation provided a comprehensive assessment of the spectrum of occupationally associated pulmonary abnormalities in the study population. HRCT revealed progressive fibrosis as the most common finding (47.23%), followed by traction bronchiectasis (34.73%) and centrilobular nodules (25.0%), with consolidation (19.45%), ground-glass opacities (16.67%), and honeycombing (15.28%) also frequently observed (**Figure 2**). The final clinicoradiological diagnosis showed silicosis as the most common condition (34.72%), followed by progressive massive fibrosis (19.4%) and UIP (15.3%), while infective disease accounted for 9.7%; bronchitis and hypersensitivity pneumonitis each comprised 4.2%, and coal workers' pneumoconiosis 2.8% (**Table 1**).

Upper-lobe predominance was observed in 31.9% of patients, while 15.3% showed lower-lobe predominance; 43.1% had no specific lobar predominance, and 9.7% had normal findings (**Figure 3**). The qualitative severity classification showed that PMF and UIP were categorized as severe occupational lung diseases, while hypersensitivity pneumonitis was considered moderate to severe. Silicosis and coal workers' pneumoconiosis were classified as mild to moderate, bronchitis as mild, and normal findings as having no severity (**Table 2**). The estimated mean occupational exposure increased with disease severity, ranging from approximately 10 years in mild bronchitis to 21–22 years in severe conditions such as PMF and UIP. Moderate-to-severe hypersensitivity pneumonitis was associated with about 18 years of exposure, while mild-to-moderate silicosis and CWP corresponded to approximately 13–14 years.

Normal cases had an estimated exposure of about 8 years (**Table 3**). The qualitative severity scale classified PMF and UIP as severe conditions due to extensive fibrosis, architectural distortion, & honeycombing, while hypersensitivity pneumonitis was considered moderate to severe. Simple silicosis and coal workers' pneumoconiosis were categorized as mild to moderate, bronchitis as mild, and normal findings as having no radiological disease. Overall, greater occupational exposure was associated with increasing qualitative disease severity (**Table 4**). **Figure 4**: Chest X-ray findings in Case 1 and Case 2 showing upper lobe nodular/fibrotic changes with lung zone collapse, associated with occupational exposure. **Figure 5**: Chest X-ray findings in Case 3 and Case 4 showing bilateral upper lobe nodular opacities and fibronodular changes with right upper lobe cavitation, suggestive of Silico-TB sequelae.

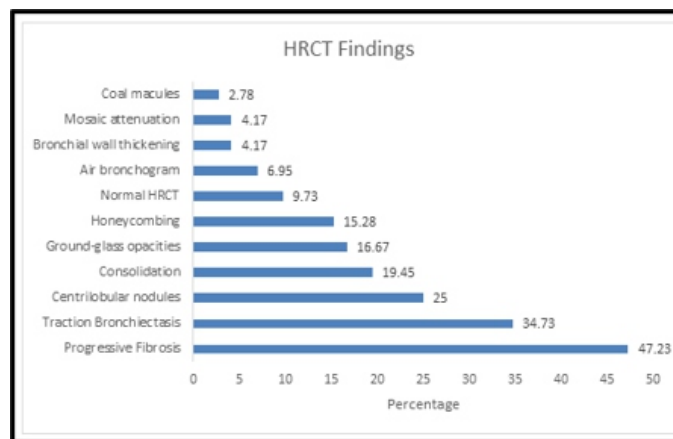


Figure 2: HRCT Findings

Table 1: Final Clinico-radiological Diagnosis

Final Clinico-radiological Diagnosis	Frequency	Percent
Silicosis	25	34.72
PMF	14	19.4
UIP	11	15.3
Infective	7	9.7
Normal	7	9.7
Bronchitis	3	4.2
Hypersensitivity Pneumonitis	3	4.2
Coal Workers' Pneumoconiosis	2	2.8
Total	72	100.0

Table 2: Classification as per severity of findings

Diagnosis	Count	Severity Group
Silicosis	25	Mild to Moderate
PMF	14	Severe
UIP	11	Severe
Hypersensitivity Pneumonitis	3	Moderate to Severe
Coal Workers' Pneumoconiosis	2	Mild to Moderate
Bronchitis	3	Mild
Normal	7	None

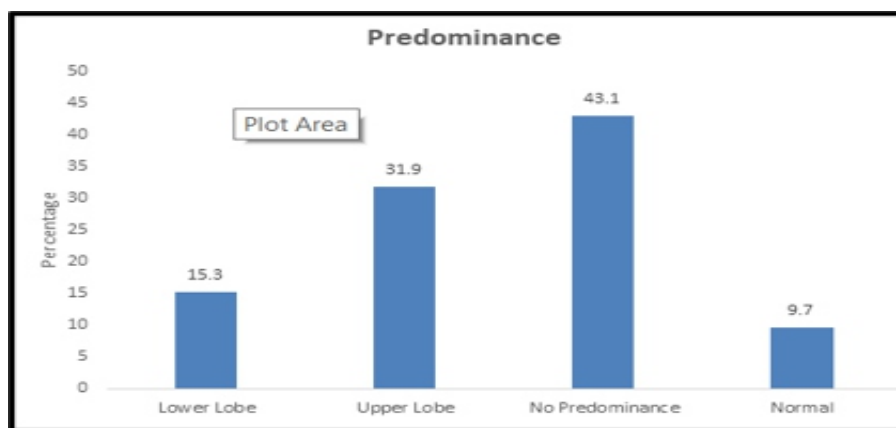


Figure 3: Predominance

Table 3: Estimated Mean Exposure per Severity Category

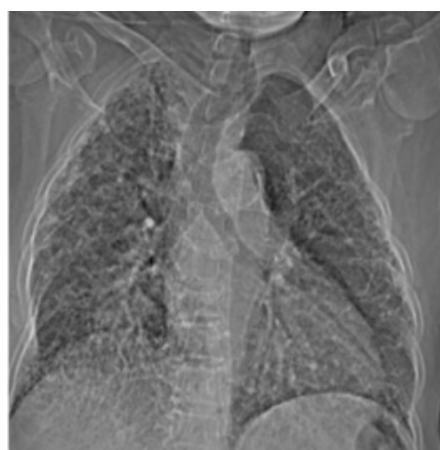
Severity	Estimated Exposure (Years)	Basis
Severe	21–22	PMF, UIP (stone workers, >15 years exposure)
Moderate to Severe	18	HP (chronic form, long exposure)
Mild to Moderate	13–14	Silicosis, CWP (~10–15 years exposure)
Mild	10	Bronchitis
None	8	Normal cases with minimal exposure

Table 4: Qualitative Severity Scale of Diagnoses (Reference-Based)

Diagnosis	Qualitative Severity	Justification
PMF	Severe	Coalescence of nodules, architectural distortion, significant fibrosis
UIP	Severe	Irreversible fibrosis, honeycombing, poor prognosis
Hypersensitivity Pneumonitis	Moderate to Severe	Traction bronchiectasis, mosaic attenuation
Silicosis (Simple)	Mild to Moderate	Stable nodular pattern, may have lymph node calcification
Coal Workers' Pneumoconiosis	Mild to Moderate	Overlaps with simple silicosis
Bronchitis	Mild	Reversible, non-fibrotic
Normal	None	No radiological disease

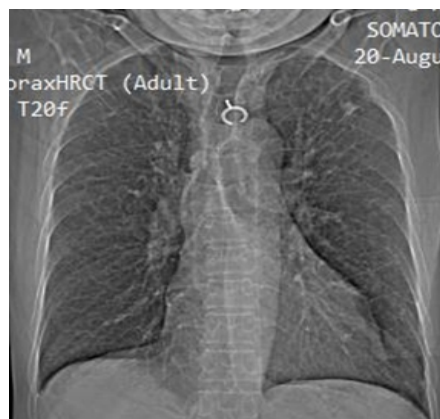


Case 1



Case 2

Figure 4: (Case 1) Chest X ray of the patient shows upper lobe predominant nodular opacities with collapse of the left upper lung zone. (Occupational history – Stone worker for 11 years); (Case 2) Chest X ray of the patient shows extensive fibrotic changes (Reticulonodular opacities in bilateral lung field (Right > Left) with collapse of right upper lung zone. (Occupational history of Plastic Factory worker since 9 years)



Case 3



Case 4

Figure 5: (Case 3) X Ray Chest shows few nodular opacities predominant in bilateral upper; **(Case 4)** Upper lobe predominant fibronodular changes with cavitation in right upper lobe and calcific foci in mediastinum (lymphadenopathy) - Likely sequelae of Silico-TB

DISCUSSION

Occupational lung diseases comprise a broad spectrum of respiratory disorders caused by repeated or prolonged exposure, or occasionally a single severe exposure, to irritating or toxic substances. They represent one of the most common work-related conditions after occupational injuries and include pneumoconiosis, asbestos-related pleural and parenchymal disease, chemical pneumonitis, occupational infections, hypersensitivity pneumonitis, and organic dust toxic syndrome. Pneumoconiosis may be classified clinicopathologically into fibrotic and non-fibrotic forms according to the presence or absence of pulmonary fibrosis. Imaging is essential in the evaluation of occupational lung disease, with chest radiography serving as an important, accessible, and inexpensive initial investigation. However, HRCT provides substantially better characterization and localization of pulmonary abnormalities, as chest radiographs may occasionally appear normal despite established occupational lung disease. The present study was therefore undertaken to evaluate the spectrum of pulmonary changes associated with occupational exposure using chest radiography and HRCT [9,11].

The mean age of participants in the present study was 44.54 ± 8.50 years, with the 31-40 and 41-50 year age groups being most commonly represented, while participants around 30 years were least frequent. **MM MM, et. al; 2019**, reported a predominance of the 20-39 year age group, while **Bhat IM, et. al; 2016** and **Dhooria S, et. al; 2018**, reported findings broadly comparable with the present study. Occupational distribution in the present study included 25% factory workers, 33.3% farmers, 19.4% mill workers, and 22.2% stone workers. Previous studies have similarly documented exposure among workers handling silica, asbestos, cotton, metal and organic dusts, iron oxide, rubber and plastic fumes, and other industrial agents. **MM MM, et. al; 2019**, reported sand-mining, road-making, and cotton-mill workers among their study population [12-14].

The mean duration of occupational exposure in the present study was 17.44 ± 7.74 years, with 5-15 years of exposure being the most frequent category. Similar exposure patterns were reported by **Gupta S, et. al; 2017** and **Patel S, et. al; 2024**. Occupational exposure to dust, chemicals, gases, and other toxic substances is associated with pneumoconioses such as silicosis, asbestosis, and coal workers' pneumoconiosis. Silicosis particularly affects workers with substantial silica exposure, including miners, construction workers, ceramic workers, tunnel drillers, sandblasters, and stone carvers [15-17].

Respiratory symptoms in the present study were predominantly cough (51.39%), followed by dyspnoea (27.78%), severe dyspnoea (19.45%), fever (19.45%), weight loss (19.45%), progressive dyspnoea (15.28%), sputum production (11.12%), dry cough (5.56%), and shortness of breath (4.17%). **MM MM, et. al; 2019**, described fever, influenza-like symptoms, dry cough, chest tightness, mild dyspnoea, and wheezing in occupational exposure-related disease. **Gupta S, et. al; 2017**, reported cough in 60%, fever in 24%, dyspnoea in 64%, and weight loss in 6%, while **Bhat IM, et. al; 2016**, also identified cough as a major presenting complaint. **Bhat IM, et. al; 2016**, reported dyspnoea on exertion in 64%, cough in 60%, fever in 24%, and weight loss in 6%, demonstrating broadly comparable clinical manifestations [12,13,15].

Regarding distribution, the present study demonstrated upper-lobe predominance in 31.9%, lower-lobe involvement in 15.3%, no specific predominance in 43.1%, and normal findings in 9.7%. Upper-lobe predominance was also described by **Bhawna S, et. al; 2013** and **Bhat IM, et. al; 2016**, whereas **Patel S, et. al; 2024**, reported involvement of the upper, middle, and lower lobes in 61%, 56%, and 91% of cases, respectively, differing from the present findings [9,13,17].

On chest radiography, diffuse upper-zone nodular opacities were most frequent (25%), followed by massive fibrosis with upper-zone predominance (19.4%), reticulonodular pattern (15.3%),

patchy opacities (12.5%), lobar consolidation (6.9%), ground-glass opacities (4.2%), increased bronchovascular markings (4.2%), and centrilobular nodules (2.8%). **Harsha Jain H, et. al; 2021**, reported ground-glass opacities, consolidation, and reticulonodular patterns in 18.86%, 5.66%, and 47.16%, respectively, while Lal NR, et. al; documented reticular and nodular opacities, septal thickening, honeycombing, traction bronchiectasis, consolidation, and ground-glass opacities with varying frequencies [18,19].

HRCT demonstrated progressive fibrosis in 47.23%, traction bronchiectasis in 34.73%, centrilobular nodules in 25%, consolidation in 19.45%, ground-glass opacities in 16.67%, honeycombing in 15.28%, air bronchogram in 6.95%, bronchial wall thickening and mosaic attenuation in 4.17% each, & coal macules in 2.78%. These findings were comparable in several respects with previous reports, although the frequencies varied. **Harsha Jain H, et. al; 2021**, reported bronchiectasis in 62.96% and honeycombing in 67.92%, whereas **Patel S, et. Al; 2024**, documented traction bronchiectasis in 60%, ground-glass opacities in 49%, and honeycombing in 58%. Lal NR, et. al; reported frequent reticular & nodular opacities, septal thickening, honeycombing, traction bronchiectasis, consolidation, and ground-glass opacities [17-19].

The final clinicoradiological diagnoses in the present study were predominantly silicosis (34.72%), followed by progressive massive fibrosis (19.4%), usual interstitial pneumonia (15.3%), infective disease (9.7%), bronchitis (4.2%), hypersensitivity pneumonitis (4.2%), and coal workers' pneumoconiosis (2.8%). **Patel S, et. Al; 2024**, reported pneumoconiosis in 5% and UIP in 45%, while **Doshi J A, et. al; 2022**, reported UIP in 38%, non-specific interstitial pneumonia in 24%, and respiratory bronchiolitis associated interstitial lung disease in 6%.

Overall, the present findings demonstrate the diverse radiological spectrum of occupational lung disease & emphasize the complementary role of chest radiography and HRCT, with HRCT providing more detailed characterization of pulmonary abnormalities and aiding clinicoradiological diagnosis [17,20].

CONCLUSION

Occupational lung diseases are preventable pulmonary disorders commonly associated with prolonged exposure to dust, smoke, fumes, and other workplace hazards. In the present study, silicosis and progressive massive fibrosis were the most frequent manifestations.

Early diagnosis and reduction of occupational exposure may help prevent progression to end-stage pulmonary fibrosis. While some diseases demonstrate characteristic radiological features, accurate diagnosis often requires integration of clinical findings, occupational history, and imaging. Although chest radiography remains an important initial investigation, HRCT is the gold standard for detailed evaluation, classification, and assessment of occupational lung disease.

LIMITATIONS & FUTURE PERSPECTIVES

The study was limited by its single-centre design, relatively small sample size, and short duration, which may restrict generalizability. Future research could focus on multicenter studies with larger cohorts to validate findings, evaluate long-term outcomes, and explore innovative diagnostic & management strategies for appendicular perforation, improving patient prognosis and reducing complications

CLINICAL SIGNIFICANCE

The clinical significance of this study lies in its potential to bridge the gap between research findings and practical healthcare applications. It emphasizes the importance of translating scientific observations into meaningful improvements in patient care, diagnosis, and treatment outcomes. By highlighting real world relevance, the study contributes to evidence based medical practice and supports informed clinical decision making. Ultimately, the findings aim to enhance patient quality of life, optimize therapeutic strategies, and promote better disease management in clinical settings.

ABBREVIATIONS

HRCT: High-Resolution Computed Tomography

UIP: Usual Interstitial Pneumonia

CT: Computed Tomography

PMF: Progressive Massive Fibrosis

GGO: Ground-Glass Opacity

CXR: Chest X-ray

ILD: Interstitial Lung Disease

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AUTHOR CONTRIBUTIONS

All authors significantly contributed to the study conception and design, data acquisition, or data analysis and interpretation. They participated in drafting the manuscript or critically revising it for important intellectual content, consented to its submission to the current journal, provided final approval for the version to be published, and accepted responsibility for all aspects of the work. Additionally, all authors meet the authorship criteria outlined by the International Committee of Medical Journal Editors (ICMJE) guidelines.

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CONFLICT OF INTEREST

Authors declared that there is no conflict of interest.

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None

ETHICAL APPROVAL & CONSENT TO PARTICIPATE

All necessary consent & approval was obtained by authors.

CONSENT FOR PUBLICATION

All necessary consent for publication was obtained by authors.

DATA AVAILABILITY

All data generated and analyzed are included within this research article. The datasets utilized and/or analyzed in this study can be obtained from the corresponding author upon a reasonable request.

USE OF ARTIFICIAL INTELLIGENCE (AI) & LARGE LANGUAGE MODEL (LLM)

The authors confirm that no AI & LLM tools were used in the writing or editing of the manuscript, and no images were altered or manipulated using AI & LLM.

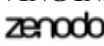
AUTHOR'S NOTE

This article serves as an important educational tool for the scientific community, offering insights that may inspire future research directions. However, they should not be relied upon independently when making treatment decisions or developing public health policies.

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REFERENCES

1. Feary J, Lindstrom I, Huntley CC, Suojalehto H, de la Hoz RE. Occupational lung disease: when should I think of it and why is it important? *Breathe*. 2023;19(2):1-10. <https://doi.org/10.1183/20734735.0002-2023>
2. World Health Organization, International Labour Organization. Almost 2 million people die from work-related causes each year. Geneva: International Labour Organization; 2021:1-92.
3. Satija B, Kumar S, Ojha UC, Gothi D. Spectrum of high-resolution computed tomography imaging in occupational lung disease. *Indian J Radiol Imaging*. 2013;23(4):287-296. <https://doi.org/10.4103/0971-3026.125564>
4. Matyga AW, Chelala L, Chung JH. Occupational lung diseases: spectrum of common imaging manifestations. *Korean J Radiol*. 2023;24(8):795-806. <https://doi.org/10.3348/kjr.2023.0274>
5. Lee J, Bambrick M, Lau A, Tarlo SM, McInnis M. Computed tomography of contemporary occupational lung disease: a pictorial review. *Diagnostics (Basel)*. 2024;14(16):1-17. <https://doi.org/10.3390/diagnostics14161786>
6. Doshi JA, Mundhra KS, Shah DS, Shah SN, Patel TV, Bhatt A, et al. Role of high-resolution CT thorax in diagnosing interstitial lung disease and its association with smoking and connective tissue disorder. *Cureus*. 2022;14(11):1-10. <https://doi.org/10.7759/cureus.31107>
7. Cox CW, Rose CS, Lynch DA. State of the art: imaging of occupational lung disease. *Radiology*. 2014;270(3):681-696. <https://doi.org/10.1148/radiol.13121415>
8. Bacchus L, et al. American College of Radiology Appropriateness Criteria: occupational lung diseases. Reston (VA): American College of Radiology; 2014:1-3.
9. Bhawna S, Ojha UC, Kumar S, Gupta R, Gothi D, Pal RS. Spectrum of high resolution computed tomography findings in occupational lung disease: experience in a tertiary care institute. *J Clin Imaging Sci*. 2013;3:64-70. <https://doi.org/10.4103/2156-7514.124097>
10. Tarlo SM. Occupational lung disease. In: Goldman L, Schafer AI, editors. *Goldman's Cecil Medicine*. Philadelphia: Elsevier; 2012:567-574.

11. Kim KI, Kim CW, Lee MK, Lee KS, Park CK, Choi SJ, et al. Imaging of occupational lung disease. *Radiographics*. 2001; 21(6):1371-1391. <https://doi.org/10.1148/radiographics.21.6.g01nv011371>
12. Madhu P, Santhosh D. Comparison between conventional radiography and high resolution computed tomography in interstitial disease of lungs. *Asian J Med Radiol Res*. 2020;8(1):159-165. <https://doi.org/10.47009/ajmrr.2020.8.1.29>
13. MM MM, Ravikumar PP, Ravikumar T. High resolution CT in occupational lung diseases-a prospective study. *Indian J Basic Appl Med Res*. 2019;8(4):277-284.
14. Bhat IM, Bhat JA, Shamshad M, Malik AA, Mir S. Role of high-resolution computed tomography chest in interstitial lung diseases. *Int J Sci Stud*. 2016;4(2):20-26.
15. Dhooria S, Agarwal R, Sehgal IS, Prasad KT, Garg M, Bal A, et al. Spectrum of interstitial lung diseases at a tertiary center in a developing country: a study of 803 subjects. *PLoS One*. 2018;13(2):1-13. <https://doi.org/10.1371/journal.pone.0191938>
16. Gupta S, Ilyas M, Gupta V, Dev G. High resolution computed tomography in the evaluation of interstitial lung diseases: imaging perspective revisited with review of literature. *Int J Med Res Rev*. 2017;5(4):412-420. <https://doi.org/10.17511/ijmrr.2017.i04.07>
17. Farid S, Perumal RSR. Evaluation of high-resolution CT chest findings in interstitial lung disease in a tertiary care hospital. *MedPulse*. 2019:102-106. <https://doi.org/10.26611/10131132>
18. Patel S, Jethva M, Trivedi A, Patel R. Role of HRCT thorax in interstitial lung disease: a study of 100 patients. *IJSR*. 2024;13(6):1892-1902. <https://doi.org/10.21275/sr24620204543>
19. Jain H, Ram A, Deepak UG. High-resolution computed tomography and chest radiography findings in clinically suspected interstitial lung diseases. *Int J Health Clin Res*. 2021;4(21):352-355.
20. Lal NR, Raj G, Boruah DK. Comparative analysis of conventional chest radiographs and HRCT thorax for the assessment of patients with interstitial lung disorders. *Int J Pharm Clin Res*. 2024;16(6):2219-2224.
21. Doshi JA, Mundhra KS, Shah DS, et al. Role of high resolution CT thorax in diagnosing interstitial lung disease and its association with smoking and connective tissue disorder. *Cureus*. 2022;14(11):1-10. <https://doi.org/10.7759/cureus.31107>

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