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The Chest and Heart Association of Bangladesh

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World TB Day-2026

Every year, the Chest and Heart Association of Bangladesh joins the global community in observing World Tuberculosis Day on 24 March to raise awareness about tuberculosis and strengthen collective efforts to eliminate this preventable and curable disease. Despite notable advances in medicine and public health, tuberculosis continues to remain a major public health challenge worldwide, including in Bangladesh.

The global slogan for World Tuberculosis Day 2026 is:

“Yes! We Can End TB – Led by Countries, Powered by People.”

It highlights the importance of national leadership, strong health systems, and active public participation in the fight against TB.

On this occasion, we urge healthcare professionals, policymakers, researchers, and the public to work together to ensure early diagnosis, proper treatment, and strengthened prevention, moving steadily toward a TB-free Bangladesh.

Editorial

Dr. Zahirul Islam Shakil, President, CHAB
Dr. Golam Sarwar Liaquat Hossain Bhuiyan, Secretary General, CHAB

Interstitial lung disease (ILD) is an important complication and association of connective tissue diseases (CTDs). ILD adds to the disease burden and death toll of patients suffering from various CTDs. It is of great significance to identify ILD in patients with CTDs early and treat it accordingly. The European Respiratory Society (ERS) and European Alliance of Associations for Rheumatology (EULAR) have published evidence-based clinical practice guidelines for the screening, diagnosis, monitoring and treatment of CTD associated ILD for optimal management in 2025. A task force was developed after the approval of both the ERS and EULAR societies. The committee consisted of nine senior pulmonologists, nine rheumatologists, one radiologist, one histopathologist, three early career members/fellows and two patient representatives.

Connective tissue disease is a heterogeneous group of disorders. On the other hand, interstitial lung disease has diverse manifestations. The task force assessed different questions in four disease groups: systemic sclerosis (SSc), idiopathic inflammatory myopathies (IIM), and other CTDs, including Sjogren`s disease (SjD), systemic lupus erythematosus (SLE) and mixed connective tissue disease (MCTD). They included rheumatoid arthritis (RA) under the umbrella term CTD in the guideline.The task force committee formulated 25 PICO (Patients, Intervention, Comparison, Outcomes) and 28 narrative questions covering the key issues separately for each of the four pre-defined disease groups. On the basis of these questions the committee formulated recommendations regarding ILD in the context of different CTDs.

For screening of ILD, the task force recommended against replacing HRCT scan with pulmonary function tests in patients with SSc, RA, IIM (S, L) and other CTDs (S, VL). They suggested not to replace HRCT with lung ultrasound for screening of ILD in patients with SSc, RA, IIM and other CTDs (C, L/VL). All patients with SSc and MCTD and IIM patients with risk factors should be screened (S, L); and all patients with RA and SjD with risk factors, and IIM patients without risk factors (C, L) could be screened for ILD.

For diagnosis, performing a global assessment of all risk factors of ILD progression in patients with SSc, RA and IIM to identify patients at higher risk of ILD progression and death was suggested. BAL could be used in patients with any CTD-ILD at the time of diagnosis in cases where there is suspicion of infection and an alternative diagnosis. They suggested that lung biopsy should not play a role for diagnosis. 6 minute walk test in patients without physical limitations and patient-reported outcome measure(PROM) can be done to assess severity and/or prognosis of ILD in any CTD-ILD patients.

In the monitoring part, repeating PFTs every 3−6 months during the first years, and at least every 6−12 months thereafter was suggested. They suggested regularly repeating HRCT after 1−2 years in patients with SSc-ILD, RA-ILD and other CTD ILD, and after 3−6 months in IIM-ILD, particularly in those at higher risk of progression. It was also suggested to repeat PFTs and HRCT in case of suspected progression in any CTD-ILD patient.

Regarding treatment, the task force recommended using tocilizumab in a subgroup (S, M) and suggested using MMF, rituximab (C, VL), and cyclophosphamide (C, L) in patients with SSc-ILD. They recommended using immunosuppressive treatment in patients with IIM-ILD. It was suggested to use immunosuppressive treatment in RA-, SjD-, MCTD- and SLE-ILD. They suggested nintedanib in SSc-ILD (C, M) and in any CTD-ILD (C, VL) patient with progressive pulmonary fibrosis. They suggested pirfenidone in patients with RA-ILD with a UIP pattern. Combination therapy with nintedanib and MMF in patients with SSc-ILD was suggested. The committee suggested using combination therapy with immunosuppressants including glucocorticoids in patients with IIM-ILD. It was suggested to treat patients with any CTD-ILD with a combination of immunosuppressants or, in the presence of progressive pulmonary fibrosis, with a combination of an immunosuppressant and nintedanib.

[S: strong recommendation; C: conditional recommendation; M: moderate evidence; L: low evidence; VL: very low evidence; MMF: mycophenolatemofetil]

Connective tissue diseases associated interstitial lung disease (CTD-ILD) is a big entity covering diverse conditions. The 2025 ERS-EULAR clinical practice guideline went through thorough evaluation followed by recommendations. This is highly appreciated. A suspicion of development of ILD in a CTD patient or an already diagnosed CTD-ILD patient needs continuous evaluation. The treatment also has advanced much in the recent years. Proper and timely screening, diagnosis, treatment and monitoring will extend the horizon of hope for the CTD-ILD patient group.

Source

Antonio K, et al. ERS/EULAR clinical practice guidelines for connective tissue diseases associated interstitial lung disease. Ann Rheum Dis 2025.

Role of PET-CT in the Diagnosis of Lung Diseases

Prof. Dr. Sharmin Quddus
Director
INMAS, Mohakhali, Dhaka-1212

Positron Emission Tomography–Computed Tomography (PET-CT) is an advanced imaging modality that combines metabolic and anatomical information, making it highly valuable in diagnosing and managing various lung diseases.

Lung Cancer: PET-CT is most widely used in evaluating lung cancer. It helps differentiate benign from malignant pulmonary nodules by detecting increased glucose uptake in cancer cells. It is essential for staging, identifying lymph node involvement, and detecting distant metastases, which guide treatment planning and prognosis.

Tuberculosis (TB): In regions with high TB prevalence, PET-CT helps detect active disease by identifying metabolically active lesions. It can also assess treatment response and distinguish active infection from healed scars.

Sarcoidosis: PET-CT is useful in identifying active inflammatory lesions and determining the extent of organ involvement. It helps guide biopsy sites and monitor response to therapy.

Interstitial Lung Disease (ILD): PET-CT may detect active inflammation in fibrotic lung diseases, helping differentiate reversible inflammatory activity from irreversible fibrosis.

Infections and Inflammation: PET-CT can identify occult infections, lung abscesses, and inflammatory conditions by highlighting areas of increased metabolic activity.

Overall, PET-CT improves diagnostic accuracy, supports early detection, guides biopsy and treatment decisions, and plays a vital role in monitoring disease progression and therapeutic response in various lung diseases.

Intralesional Instillation of Voriconazole: Minimally Invasive Approach to Pulmonary Aspergilloma - A Successful Bronchoscopic Management of a case of recurrent Hemoptysis

Dr. Sharmin Sultana

FCPS (Medicine), FCPS (Pulmonology)

Assistant Professor, NIDCH, Mohakhali, Dhaka.

Pulmonary aspergilloma, a form of chronic pulmonary aspergillosis, results from the saprophytic colonization of Aspergillus fungi within a pre-existing pulmonary cavity, most commonly a sequelae of treated tuberculosis [1, 6]. While often asymptomatic, it can lead to significant morbidity, with hemoptysis being the most frequent and potentially fatal complication, occurring in 2% to 50% of cases [1]. The underlying mechanisms involve mechanical irritation from the fungus ball and erosion of the highly vascular cavity wall by fungal toxins and proteolytic enzymes [10].

Surgical resection (lobectomy or segmentectomy) is considered the definitive and curative treatment for symptomatic aspergilloma [3, 7]. However, many patients are poor surgical candidates due to limited pulmonary reserve, comorbidities or the complex nature of the lesion [6, 8]. For such patients, alternative management strategies are crucial. Bronchial artery embolization (BAE) is effective for controlling acute hemoptysis, but it is not curative and carries a recurrence rate of up to 25% within 1 year [1, 6]. Systemic antifungal therapy alone often yields disappointing results, as poor drug penetration into the avascular cavity limits its efficacy [1, 9, 10]. Consequently, local intracavitary instillation of antifungals has emerged as a valuable therapeutic option for patients who are inoperable [1, 5].

Case Report:

A 54-year-old female with a history of disseminated tuberculosis and diabetes mellitus presented to the emergency room with eight episodes of hemoptysis over the preceding months, each episode approximately 200-250 mL. She also reported a one-month history of productive cough, fever, significant weight loss, and right-sided chest pain.

Following admission, investigations confirmed a diagnosis of pulmonary aspergilloma localized to the right upper lobe. The patient declined surgical intervention; therefore, an alternative bronchoscopic approach was pursued. She underwent 4 sessions of intralesional voriconazole instillation via flexible fiber-optic bronchoscopy, targeting the RB1 segment. Each session, performed 30 days apart, consisted of 200 mg voriconazole diluted in 20 mL of normal saline. Following the fourth instillation, she received oral voriconazole 200 mg twice daily for two months.

No procedure-related complications, such as pneumothorax or bleeding were observed, and the patient tolerated the medication without any adverse effects. Clinically, she demonstrated a significant reduction in hemoptysis frequency and volume, with an improvement exceeding 50%. Her cough, fever, chest pain, and constitutional symptoms are also gradually resolved.

Radiological follow-up at three and six months revealed partial response, with less than 50% reduction in aspergilloma size and notable thinning of the cavity wall. No rescue therapy was required during the observation period. At the six-month global physician assessment, both clinical and radiological outcomes were consistent with treatment success. This case demonstrates that intracavitary voriconazole instillation combined with sequential oral therapy is a safe and effective alternative for managing pulmonary aspergilloma in patients who are unsuitable for or refuse surgery.

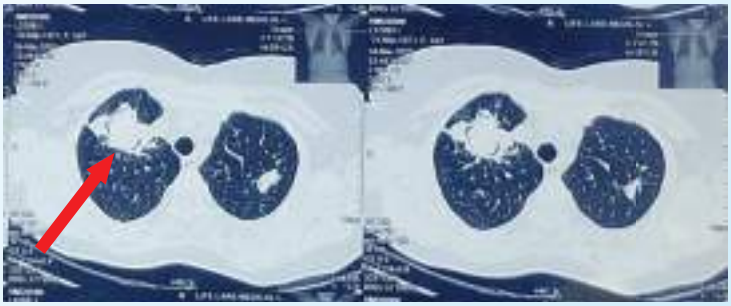

Figure 1: *Initial CT chest showing pulmonary aspergilloma at right upper lobe*

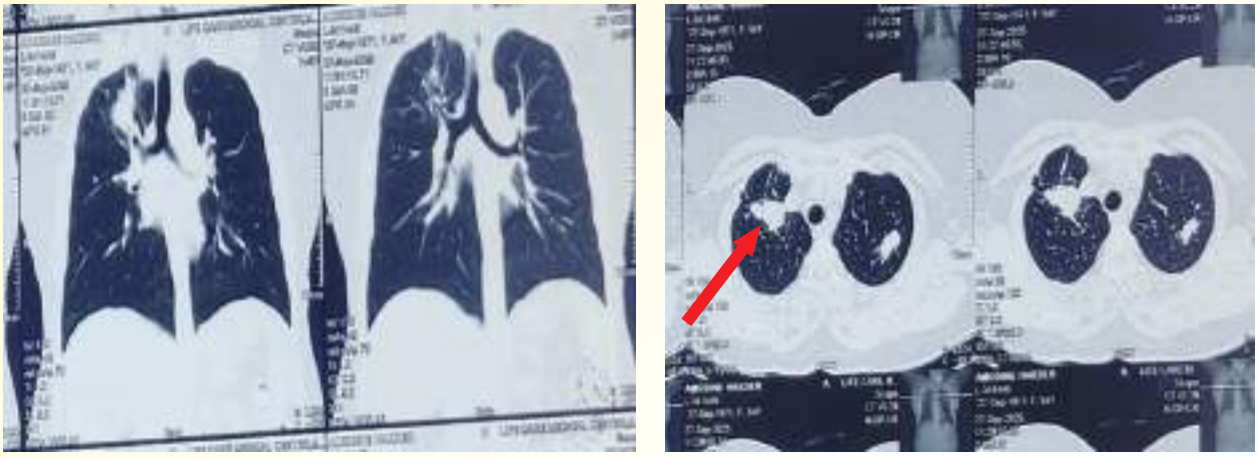

Figure 2: *Follow-up CT chest at 3 months revealed partial reduction of lesion size.*

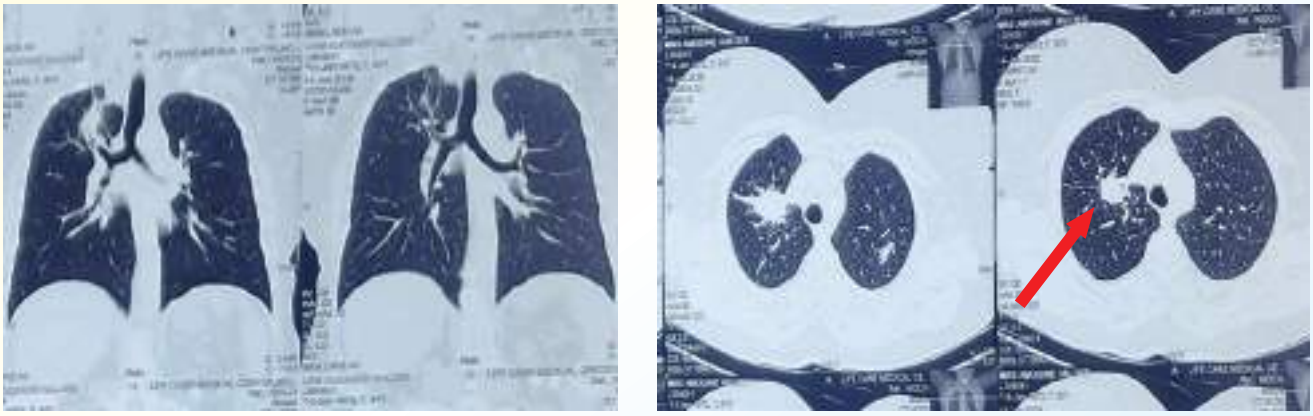

Figure 3: *Final follow-up CT chest at 6th month revealed that the lesion size was significantly reduced.*

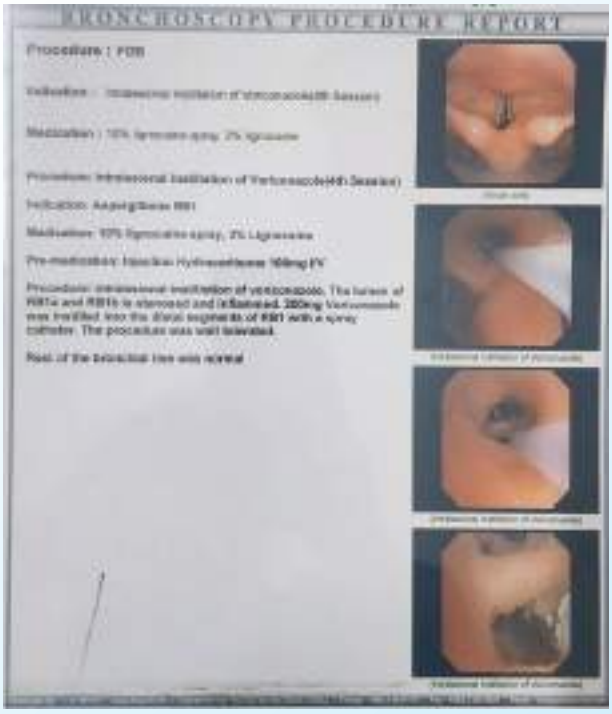

Figure 4: *Intralesional instillation of Voriconazole in the aspergilloma cavity via fiber-optic bronchoscopy*

This case demonstrates that intralesional voriconazole instillation via flexible bronchoscopy, followed by sequential oral therapy, is a safe, well-tolerated, and effective treatment strategy for symptomatic pulmonary aspergilloma in patients who are not candidates for, or refuse, surgical resection. The significant reduction in hemoptysis, improvement in constitutional symptoms, and favorable radiological changes observed in our patient underscore the clinical utility of this minimally invasive approach. By achieving high local drug concentrations directly within the fungal cavity, this technique addresses the primary limitation of systemic antifungal therapy and offers a valuable alternative for hemoptysis control, without the risks of surgery or the temporary benefits of bronchial artery embolization. While further validation through larger randomized controlled trials, such as the ongoing AIIMS study, is needed to establish standardized protocols and long-term outcomes, this report adds to the growing evidence supporting intracavitary antifungal therapy as a key component in the multidisciplinary management of complex aspergilloma cases.

Reference:

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Image Contest

Dr. Tazrin Farhana
Assistant Professor, Respiratory Medicine
NIDCH, Mohakhali, Dhaka-1212

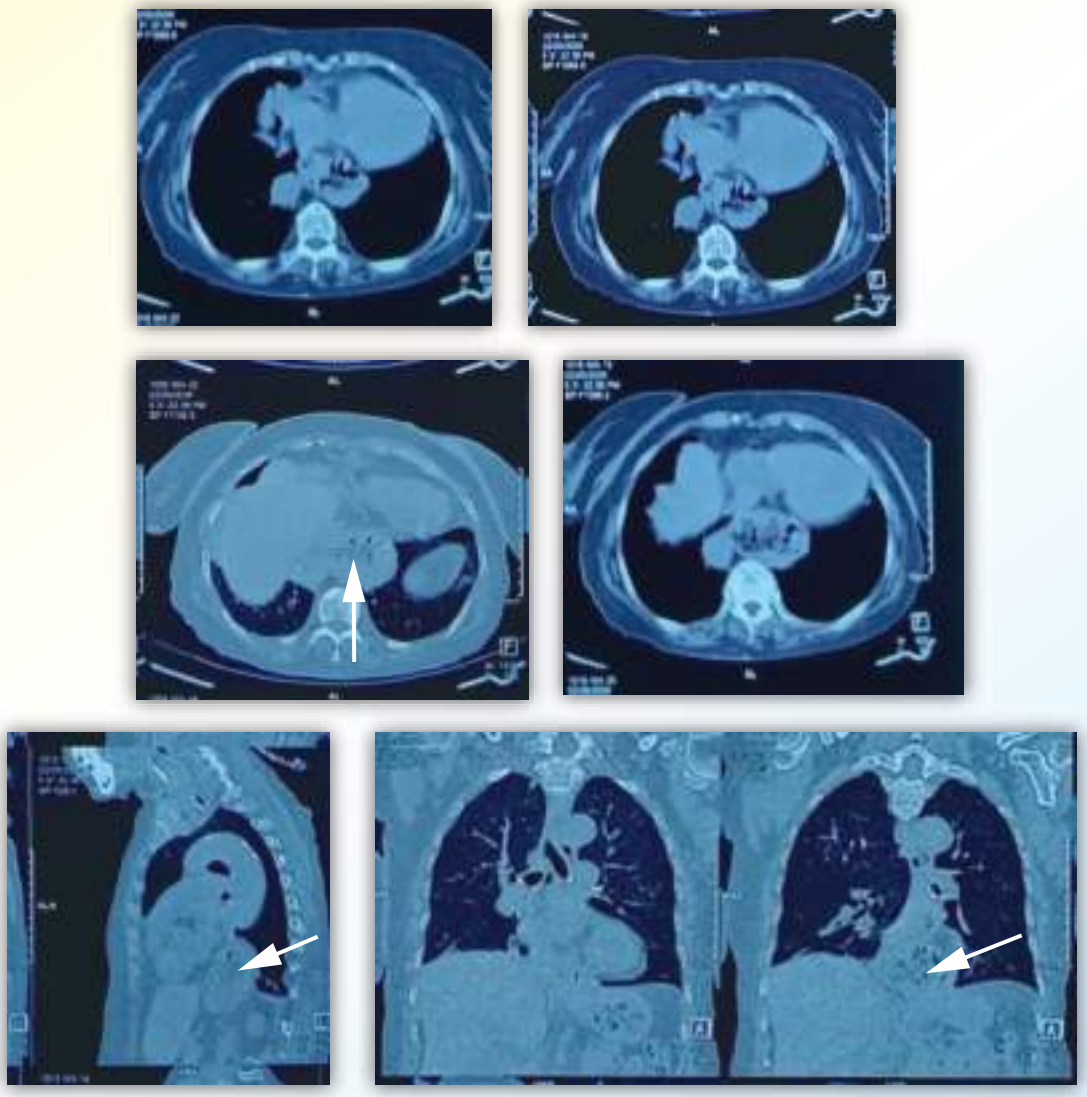

Figure: *Above the Diaphragm- Unmasking Hiatus Hernia Through Imaging*

A 65-year-old female presented with complaints of early satiety, post-prandial bloating, and chest tightness after taking meals. A contrast-enhanced CT scan of the chest was performed to evaluate the symptoms. Imaging demonstrated features consistent with a Hiatus Hernia. The CT showed a retrocardiac air-containing structure in the posterior mediastinum, located above the level of the diaphragm. This structure displayed gastric mucosal folds and an air-fluid level, and was seen to be continuous with the stomach through a widened esophageal hiatus. No evidence of gastric volvulus, obstruction, or strangulation was noted. The lungs and mediastinal structures were otherwise unremarkable. Based on the clinical symptoms and radiological findings, the patient was diagnosed with symptomatic hiatal hernia and managed conservatively with dietary modification, proton-pump inhibitors, and lifestyle measures, resulting in gradual improvement of her post-prandial symptoms.

Tubeless VATS: A New Frontier in Minimally Invasive Thoracic Surgery

Dr. S M Tajdit Rahman (Tanim)
Academic Registrar, Department of Thoracic Surgery, NIDCH

Tubeless Video-Assisted Thoracoscopic Surgery (Tubeless VATS) represents an evolutionary advancement in minimally invasive thoracic surgery. By eliminating routine postoperative chest tube drainage—and in selected cases avoiding endotracheal intubation—this technique enhances postoperative recovery, reduces pain, facilitates early mobilization, and shortens hospital stay. As enhanced recovery after surgery (ERAS) principles gain global acceptance, Tubeless VATS stands at the forefront of patient-centered thoracic surgical innovation.

Concept and Technical Framework

Tubeless VATS refers primarily to thoracoscopic procedures performed without postoperative chest tube placement. In selected patients, the approach may also include:

- Non-intubated anesthesia (spontaneous ventilation)
- Use of laryngeal mask airway instead of double-lumen endotracheal tube
- Avoidance of urinary catheterization
- Omission of central venous access

Technical Considerations

1. Careful patient selection
2. Meticulous intraoperative hemostasis
3. Intraoperative air leak testing
4. Lung re-expansion under direct thoracoscopic visualization

Indications

Tubeless VATS is particularly suitable for:

- Peripheral pulmonary nodules (wedge resection)
- Mediastinal tumor excision
- Selected primary spontaneous pneumothorax cases
- Sympathectomy
- Pleural biopsies

It is increasingly being explored for anatomical lung resections in carefully selected low-risk patients.

Clinical Advantages

1. Reduced Postoperative Pain

Chest tubes are a major contributor to postoperative pain following thoracic surgery. Eliminating the drain reduces intercostal nerve irritation and enhances patient comfort.

2. Enhanced Recovery

Patients demonstrate:

- Earlier ambulation
- Improved pulmonary mechanics
- Reduced opioid consumption
- Faster return to oral intake

3. Shorter Hospital Stay

Multiple studies report discharge within 24–48 hours for minor resections.

4. Lower Complication Burden

Reduced risk of:

- Drain-site infection
- Prolonged air leak due to tube irritation
- Impaired coughing due to pain

Safety Considerations

Despite its advantages, Tubeless VATS demands strict adherence to safety protocols:

- Not suitable for patients with significant pleural adhesions
- Contraindicated in uncontrolled intraoperative air leaks
- Requires experienced thoracoscopic surgical team
- Immediate access to chest tube placement if necessary

Careful postoperative monitoring is essential, especially within the first 6–12 hours.

Current status in Bangladesh

While formal reports on Tubeless VATS specifically within Bangladesh are not yet widespread in published literature, but Tubeless VATS has been started in our country.

Conclusion

Tubeless VATS represents a transformative step in thoracic surgery. By eliminating routine chest drainage and minimizing anesthetic invasiveness, it shifts the focus from merely reducing incision size to optimizing physiological recovery.As surgical science continues to evolve toward precision and patient-centered care, Tubeless VATS stands as a compelling model of how thoughtful innovation can redefine postoperative outcomes.

CHABCON NEWS

43rd Annual General Meeting and International Congress of the Chest and Heart Association of Bangladesh

The 43rd Annual General Meeting and International Congress of the Chest and Heart Association of Bangladesh (CHAB) will be held on 5–6 May 2026. This prestigious scientific event will bring together physicians, pulmonologists, cardiologists, researchers, and healthcare professionals from around the world.This year's theme of the congress is "Easy Breath, Happy Life."

The congress will serve as an important platform for the exchange of scientific knowledge and recent advances in the fields of chest medicine, cardiology, respiratory care, and related disciplines. The program will include keynote lectures, scientific sessions, panel discussions, and presentations of original research.

Renowned national and international experts are expected to share their experiences and insights on contemporary challenges and innovations in the diagnosis and management of cardiopulmonary diseases. The event will also provide an opportunity for young physicians and researchers to present their work and interact with leading professionals in the field.

Members of CHAB are cordially invited to participate in this significant gathering and contribute to the advancement of chest and heart care in Bangladesh.

Pre-Conference Workshops

As part of the 43rd Annual General Meeting and International Congress of the Chest and Heart Association of Bangladesh (CHAB), three pre-conference workshops will be held before the main congress. These workshops are designed to enhance practical knowledge and skills among clinicians and young researchers.

The workshops will focus on Research Methodology, Point-of-Care Ultrasound (POCUS), ABG,NIV and Pulmonary function test, Medical Pleuroscopy,and Tube Thoracostomy. Each session will be conducted by experienced local and foreign faculty members who will provide interactive discussions and hands-on training.

The Research Methodology workshop will guide participants through the fundamentals of designing and conducting clinical research, data analysis, and scientific writing. The POCUS workshop will emphasize the growing role of bedside ultrasonography in the rapid assessment and management of cardiopulmonary conditions. The Tube Thoracostomy workshop will offer practical training on indications, techniques, and complication management of chest tube insertion.

These workshops aim to strengthen both the academic and procedural competencies of participants, making them valuable preparatory sessions ahead of the main scientific congress.

MoU Signing Ceremony Between CHAB and Planetary Health Academia

A Memorandum of Understanding (MoU) was signed between the Chest and Heart Association of Bangladesh (CHAB) and Planetary Health Academia, an organization dedicated to advancing global health through education, research, and humanitarian initiatives.

The agreement marks a significant step towards strengthening international collaboration in the fields of chest and heart health. Under this partnership, both organizations will work together to promote joint research, academic exchange, and capacity-building initiatives.

Leaders from both organizations expressed their optimism that this collaboration will create new opportunities for knowledge sharing, professional development, and advancement of evidence-based healthcare practices.

Recognition of CHAB Members at APSR Congress 2025

Members of the Chest and Heart Association of Bangladesh (CHAB) achieved notable recognition at the APSR Congress 2025, reflecting the growing contribution of Bangladeshi physicians and researchers in the international arena.

Several CHAB members were honored in different categories for their outstanding academic and research contributions. The awardees include:

Dr. Md. Shafiqul Islam – Norbert Berend COPD Young Investigator Award

Dr. Nowroj Ahmed – Best Education Award, Philippines Manila Congress 2025

Dr. Sadia Sultana Resma – Respirology Case Report Gold Award 2025

Dr. Manal Mizanur Rahman – APSR Assembly Education Award

Dr. Md. Hamza – Early Career Excellence Award

Dr. Tazrin Farhana – Education assembly award

These achievements highlight the dedication, excellence, and international recognition of CHAB members in the field of respiratory and cardiopulmonary medicine.

The association congratulates all the awardees for their remarkable accomplishments and wishes them continued success in their future endeavors.

World TB Day celebration

The Chest and Heart Association of Bangladesh (CHAB) organised a comprehensive programme on the occasion of World TB Day. The event was graced by the Honourable State Minister for Health, the Director General of Health Services, the President and Secretary of CHAB, along with other distinguished specialist doctors.

The programme commenced with an inaugural session, followed by an awareness rally to highlight the importance of tuberculosis prevention, early diagnosis, and appropriate treatment. A scientific session was held where experts presented on various aspects of tuberculosis, including recent advances and ongoing challenges.

The programme concluded with speeches by the honoured guests, who emphasised the need for sustained efforts, increased public awareness, and coordinated initiatives to combat tuberculosis in Bangladesh.

The event reflected CHAB's continued commitment to raising awareness and strengthening the fight against tuberculosis.

World COPD Day Celebration 2025

World TB Day Celebration 2026

Sastho Samachar Organized by The Chest and Heart Association of Bangladesh

DPLD, Sleep Disorder & Smoking Cessation Clinic Opening at NIDCH

Throwback to APSR 2025: The Sunrise of a New Era

Dr. Sadia Sultana Resma
Medical Officer
NIDCH, Mohakhali, Dhaka-1212

A remarkable highlight of the APSR Congress 2025 was the strong, vibrant, and inspiring participation from Bangladesh, with more than 300 delegates representing diverse institutions across the country. This huge presence reflected the rapidly growing academic strength, unity, and enthusiasm of the Bangladeshi respiratory community. Most notably, the outstanding performance of young researchers showcased exceptional dedication, scientific rigor, and innovative thinking, signaling a promising future for respiratory research in Bangladesh.

Bangladeshi delegates presented over 40 scientific abstracts through both oral and poster presentations, spanning a wide range of domains in respiratory medicine. These contributions were highly appreciated by international faculty and peers, underscoring the rising quality, depth, and global relevance of clinical research emerging from Bangladesh. Furthermore, ten young physicians were honored with prestigious education awards, recognizing their academic excellence, perseverance, and commitment to advancing respiratory medicine.

Among the most significant milestones were the achievements of the Young Researcher Award, the Respirology Gold Award, and the APSR–BLF Award, representing historic accomplishments for Bangladesh on the global respiratory academic platform. These recognitions not only affirm the international credibility of Bangladeshi researchers but also highlight Bangladesh's emergence as a growing hub of clinical and translational respiratory research.

Bangladesh offers a unique and rich clinical landscape, characterized by a high burden of tuberculosis, occupational lung diseases, environmental pollution-related respiratory disorders, and post-infectious pulmonary complications. This diversity provides exceptional opportunities for impactful, high-quality research with both regional and global relevance. With stronger institutional support, sustainable funding mechanisms, structured mentorship programs, and research-friendly policies, young researchers in Bangladesh can make even greater contributions to global scientific advancement.

A major driving force behind this remarkable youth engagement has been the dynamic leadership of the Chest Heart Association of Bangladesh (CHAB). Through the visionary guidance and encouragement of its President and Secretary General, a new generation of young physicians and researchers were actively motivated to participate in the APSR platform. Their initiatives to promote academic exposure, international networking, and research participation significantly

increased the presence of young Bangladeshi delegates at APSR, helping them showcase their work and connect with the global respiratory world,

With the continous support from this leadership—will undoubtedly catalyze innovation and position Bangladesh as a leading center for respiratory research in South Asia, marking the true sunrise of a new era.

Primary Squamous Cell Carcinoma of the Lung in an Adolescent: A Case of Misdiagnosis in a Tuberculosis-Endemic Region

Md. Hamza[1], Habib Uddin Ahmed[2], Kazi Fawzia Afreen[3],Sarder Mohammed Golam Sarwor[4], Tazrin Farhana Sruti[5], Maisha Samiha Binte Akter (Reeti)[6]

[1]Assistant Registrar, Respiratory Medicine, NIDCH, Mohakhali, Dhaka, [2]Associate Professor, Respiratory Medicine, NIDCH, Mohakhali, Dhaka, [3]Assistant Professor, Respiratory Medicine, NIDCH, Mohakhali, Dhaka, [4]Registrar, Respiratory Medicine, NIDCH, Mohakhali, Dhaka. [5]Assistant Professor, Respiratory Medicine, NIDCH, Mohakhali, Dhaka. [6]FCPS (Pulmonology) Trainee, NIDCH, Mohakhali, Dhaka.

Abstract

Lung cancer in adolescents is exceptionally rare. A 14-year-old non-smoking male presented with an 8-month history of cough and progressive shortness of breath. Initially diagnosed and treated for pulmonary tuberculosis based on radiological findings, his condition deteriorated. Advanced imaging revealed left lung collapse with lymphadenopathy. Bronchoscopy identified an endobronchial obstruction; biopsy confirmed invasive squamous cell carcinoma. This case highlights the critical risk of misdiagnosing malignancy as tuberculosis in endemic regions and underscores the necessity for early bronchoscopic evaluation in adolescents with atypical or treatment-resistant respiratory symptoms.

Keywords: Adolescent Lung Cancer; Squamous Cell Carcinoma; Tuberculosis; Endobronchial Tumor.

Introduction

Lung cancer remains the leading cause of cancer-related mortality worldwide, but its occurrence in individuals under the age of 20 is exceedingly rare, accounting for less than 0.05% of all cases [1]. The clinical presentation—cough, shortness of breath, hemoptysis and chest pain—is non-specific and often overlaps with symptoms of common respiratory infections, asthma or in endemic areas pulmonary tuberculosis (PTB) [2]. This frequently leads to delayed or misdiagnosis as physicians naturally gravitate towards common diseases.

In countries with high burden of TB like Bangladesh, the initial diagnosis of a lung mass or collapse in a young patient is often PTB. While this is a reasonable first approach, failure to improve on appropriate anti-tuberculous therapy (ATT) should prompt an urgent re-evaluation for alternative pathologies, including malignancy [3]. The most common pediatric lung malignancies are metastatic lesions (e.g., from Wilms' tumor or osteosarcoma); primary bronchogenic carcinomas are a profound rarity [4].

Squamous cell carcinoma (SCC) of the lung is historically linked to chronic tobacco smoking and is almost exclusively diagnosed in older adults. Its occurrence in a non-smoking adolescent is an extraordinary event, making its presentation and diagnosis a significant learning opportunity. This case report describes such an instance, initially misdiagnosed as TB emphasize the importance of considering malignancy in atypical clinical courses.

Case Presentation

A 14-year-old Bangladeshi male presented to the National Institute of Diseases of the Chest and Hospital (NIDCH), Dhaka with chief complaints of persistent cough and progressive shortness of breath (SOB) for eight months. His symptoms began insidiously and were initially diagnosed as pulmonary tuberculosis by a local physician based on clinical features and a chest radiograph that showed left lung collapse. He was commenced on a standard first-line ATT regimen (isoniazid, rifampicin, pyrazinamide and ethambutol).

Despite being on ATT for several months, his symptoms showed no improvement. Instead, his SOB progressed gradually. Over the two months preceding admission, he became unable to walk even short distances without significant respiratory distress, indicating a severe functional decline.

On admission to NIDCH, he was conscious and oriented but appeared chronically ill, undernourished and mildly dyspneic at rest. His vital signs were: temperature afebrile, heart rate 98 bpm, respiratory rate 22 breaths/min and

oxygen saturation (SpO2) 94% on room air. Physical examination revealed trachea shifted to right with reduced chest expansion on the right side, dull percussion note and absent breath sounds over the entire right hemithorax, consistent with complete lung collapse. No peripheral lymphadenopathy or clubbing was noted.

Initial laboratory investigations revealed mild anemia with a hemoglobin level of 10.0 g/dL (normal: 13-16.5 g/dL). Other routine hematological and biochemical parameters were within normal limits.

Given the failure of ATT and progressive symptoms, a contrast-enhanced computed tomography (CECT) scan of the chest was performed. The CT scan revealed a collapse of the left upper lobe, accompanied by significant conglomerate lymphadenopathy in the paratracheal, pre-tracheal, subcarinal, pre-aortic and left hilar regions. There was no evidence of cavitation or tree-in-bud nodules typical of TB.

To evaluate the cause of the left bronchial obstruction, a fiberoptic bronchoscopy (FOB) was urgently performed. It revealed a fungating, friable and whitish endobronchial growth completely obscuring the orifice of both the left upper and lower lobe bronchi. The carina appeared widened and fixed. Biopsies were taken from this mass.

Histopathological examination of the bronchial biopsy specimens showed fragments of bronchial tissue infiltrated by nests and sheets of malignant epithelial cells exhibiting intercellular bridging, keratin pearl formation and prominent nuclear atypia with mitotic figures. These features were diagnostic of invasive moderately differentiated squamous cell carcinoma (SCC).

Upon confirmation of malignancy, the patient was transferred to the National Institute of Cancer Research and Hospital (NICRH), Dhaka for comprehensive oncological management, including staging workup and discussion of treatment options (e.g., chemotherapy, radiotherapy).

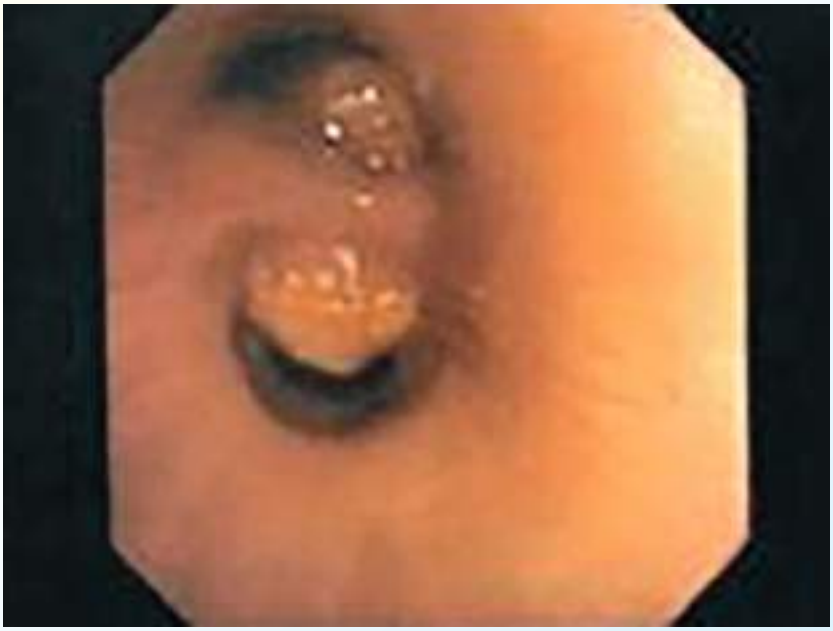

Figure: *An endobronchial mitotic lesion was seen partially occluding left upper and lower lobe bronchus*

Discussion

This case presents two critical learning points: the profound rarity of primary SCC lung cancer in adolescents and the dangerous potential for misdiagnosis as TB in endemic regions.

The initial misdiagnosis of PTB was understandable but ultimately detrimental. The patient's presentation with chronic respiratory symptoms and radiographic evidence of lung collapse in a TB-endemic country logically points toward TB. However, the cardinal principle of "failure to improve on appropriate therapy warrants re-evaluation" was crucial here [5]. The progression of symptoms while on ATT is a major red flag that was eventually acted upon, leading to the correct diagnosis.

Squamous cell carcinoma of the lung in a 14-year-old non-smoker is an oncological anomaly. The established major risk factor for SCC is chronic tobacco smoking, which plays no role in this case [6]. This forces a consideration of other potential etiologies, though none are well-established in such young patients. These could include genetic predispositions (e.g., family cancer syndromes), exposure to secondary smoke or other environmental carcinogens, or previous lung injury [7]. However, no such history was elucidated in this case. The pathological diagnosis was unequivocal, leaving no doubt about the disease entity but highlighting a gap in our understanding of its pathogenesis in the young.

The radiological findings were also noteworthy. The initial chest X-ray suggested left lung collapse, the subsequent CT scan also clarified it was the left upper lobe that was collapsed with extensive lymphadenopathy. The extensive nodal involvement (N2/N3 disease) and endobronchial location seen on FOB indicate a locally advanced stage at diagnosis (likely Stage IIIB/C), which carries a very poor prognosis [8]. The endoscopic finding of a tumor obstructing two lobe bronchi is typical for central tumors like SCC.

The management of advanced lung SCC in adults involves platinum-based chemotherapy, often combined with immunotherapy and/or radiotherapy [9]. However, there are no standard guidelines for treating this cancer in adolescents due to its extreme rarity. The oncology team at NICRH would face the challenge of adapting an adult treatment protocol for a pediatric patient, balancing efficacy against potential long-term toxicities.

This case underscores a critical public health message for physicians in TB-endemic areas: while TB is common, it is not the only cause of lung collapse. Other malignancies, though rare, must be part of the differential diagnosis. A delayed diagnosis directly impacts the stage and resectability of the cancer, turning a potentially curable early-stage disease into an advanced, incurable one. Early referral for bronchoscopy in patients not responding to empirical TB treatment is a vital step that can save lives [10].

Conclusion

This report describes a profoundly rare case of primary pulmonary squamous cell carcinoma in a 14-year-old boy, initially misdiagnosed and treated as tuberculosis. It serves as a stark reminder that despite the epidemiological likelihood of infectious diseases like TB, clinicians must maintain a broad differential diagnosis. Persistent symptoms and radiological abnormalities that do not resolve with standard treatment must trigger an immediate investigation for non-infectious causes, including malignancy. Early and definitive diagnostic procedures, particularly fiberoptic bronchoscopy with biopsy, are essential for achieving a timely diagnosis and improving outcomes in such atypical presentations. This case advocates for a higher index of suspicion for lung cancer even in the pediatric and adolescent population in specific clinical contexts.

Consent

Verbal consent has been taken from the patient regarding publication of this report.

Conflict of Interest

No conflict of interest was declared by the authors.

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Current Concepts in the Management of Pulmonary Hypertension

Dr. Imtiaz Tarik
Registrar,
NIDCH, Mohakhali, Dhaka-1212

Pulmonary hypertension (PH) remains a progressive and life-threatening condition characterized by elevated pressure in the pulmonary arteries, ultimately leading to right ventricular dysfunction, heart failure, and premature death if inadequately managed.Pulmonary hypertension affects around 1% of the global population, is more common in people over 65 due to cardiac and pulmonary conditions, and is most often caused by left heart disease, followed by lung diseases such as chronic obstructive pulmonary disease (COPD). Defined hemodynamically as a mean pulmonary artery pressure (mPAP) exceeding 20 mm Hg at rest— a threshold refined from prior definitions—PH encompasses a heterogeneous group of disorders classified into five World Health Organization (WHO) groups based on underlying etiology, pathophysiology and therapeutic responses.Over the past decade, substantial progress has reshaped our understanding and approach to PH management. The 2022 European Society of Cardiology/European Respiratory Society (ESC/ERS) guidelines, incorporating insights from the Sixth World Symposium on Pulmonary Hypertension, introduced key refinements in diagnosis, risk stratification, and treatment algorithms. These have been further informed by the Seventh World Symposium on Pulmonary Hypertension (convened in 2024), emphasizing refined phenotyping, multimodal risk assessment and early aggressive intervention.

Treatment goals

The primary treatment goals are identified in treatment, guidelines and expert consensus recommendations which helps in achieving and maintaining low-risk status and help to improve patient's prognosis. The three and four risk strata models are used to diagnose and follow up for the patients. Considering how PAH affects the heart and right heart dysfunction is a leading indicator for disease progression, another key goal is treating to near-normalization of the right heart.Patients who have achieved low-risk status in their first year after diagnosis have a better prognosis than those who have not.

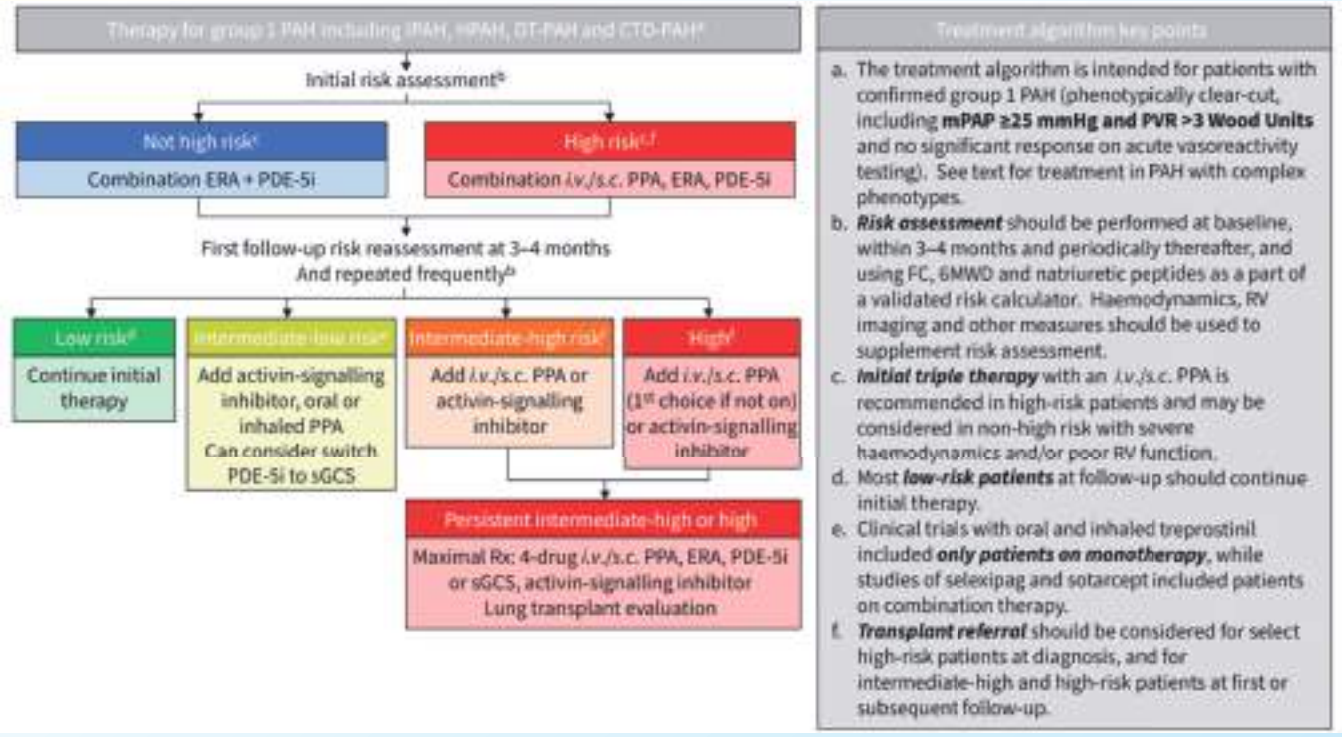

Figure 1: *Algorithm for PAH management*

Treatment pathways

Only Group I patients which is also knowns as pulmonary arterial hypertension (PAH) group has large number of options for treatment. If positive for vasoreactivity test, start high-dose calcium channel blocker (CCB) therapy is the initial step. If negative, proceed with initial combination therapy. Pulmonary arterial hypertension (PAH) therapies work through four major pathways: endothelin-1 receptor antagonists (ERAs) block the endothelin (ET)-1 receptor (Ambisertan). Phosphodiesterase-5 inhibitors (PDE-5i) (Sildenafil) and soluble guanylyl cyclase (sGC) stimulators (Riociguat) increase signalling in the nitric oxide (NO) and cyclic GMP (cGMP) pathway, resulting in increased cGMP levels, and prostacyclin (PGI2) and other prostacyclin pathway agents (PPAs) bind the prostacyclin receptor (IP receptor), promoting the production of cAMP, leading to vasodilation and inhibiting vascular cell growth.The addition of sotatercept, an activinsignalling inhibitor, to the treatment armamentarium has brought significant optimism, as it is the first treatment to act on a completely novel pathway in nearly two decades. In Group II patients associated with left heart disease PDE5i therapy in patients with HFpEFassociated with a severe pre-capillary component (PVR mostly >5 WU) can be given. Management of Group III patients still based on general management and improvement of the primary disease. Although recently PDE 5i has showed significant improvement in exercise capacity, symptoms in emphysema associated severe PHTN and promising results have been obtained with the use of inhaled treprostinil in ILD patients. Riociguat &Treprostinilare recommended for symptomatic patients with inoperable CTEPH or persistent/recurrent PH after PEAin group IV.

Importance of treatment in multiple pathways

PH is a progressive disease with a complex pathology, including increased smooth muscle cell and endothelial cell proliferation, inflammation, and dysregulated angiogenesis. So for complex pathogenesis constructing treatment regimens with a combination of therapies from different pathways are critical for patient outcomes. Current treatment guidelines stress the necessity of helping patients to achieve low-risk status and for this we need to target multiple pathways.

Necessity of pulmonary hypertensionexpert centers

Being evaluated at a specialized PH center offers significant advantages. Pulmonary arterial hypertension (PAH) is a complex condition—not only in terms of diagnosis but also in managementand today we have more treatment options available than ever before. Because of this, it's essential to carefully match the right therapy to the right patient. Simply not every medication or combination of treatments is suitable for every individual, so personalized care is the key.Treatment guidelines recommend all patients with PH receive a consult at a PH expert center, including at diagnosis, establishing a treatment plan &during periodic follow-up.

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The CHABCON News Bulletin is a biannual service that provides the latest news, insights, advance notice of trends and updates, case studies and real world advice about developments promoting the science of Pulmonology and Interventional Pulmonology.

On this World TB Day 2026, the Chest and Heart Association of Bangladesh joins the global community to raise awareness about tuberculosis and strengthen collective efforts to eliminate this preventable and curable disease. We hope this bulletin will serve as a reminder of our shared responsibility to build a nation free of the burden of respiratory disease.

If you would like to view this archived issues, please see the link below.

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