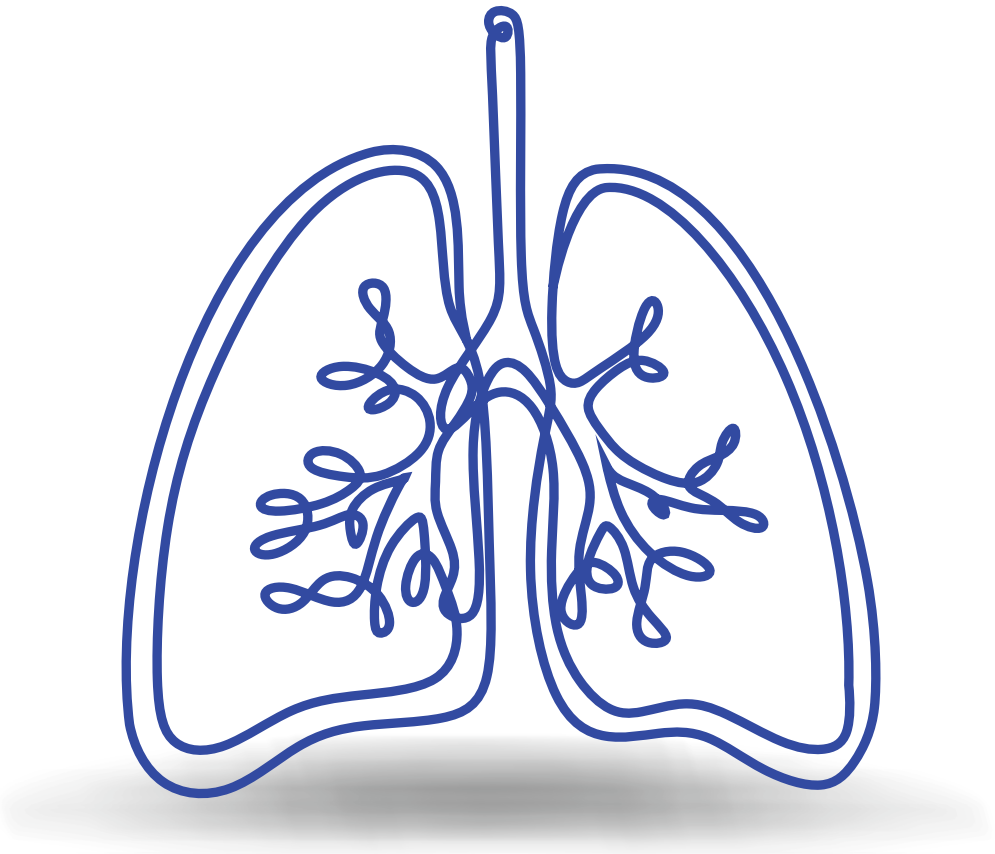
CME FOUNDATION OF INDIA



Good Airway Practice

Event Report

The Event on Chronic Mucus Hypersecretion (CMH), held on 17th October 2025 at the ITC Royal, Kolkata, brought together leading respiratory experts from across India to address the causes, consequences, diagnostic challenges, and management strategies for CMH.

Dr. Ronak Panwala introduced the scientific program with a brief highlight on the the burden of chronic mucus hypersecretion (CMH) across respiratory diseases, practical diagnostic approaches, and real-world management strategies, and introducing the speaker Dr. Raja Dhar.

Dr. Raja Dhar followed with an interactive session on positioning CMH as a major clinical and research focus for the next decade, calling it “the decade of mucus.” He emphasized that while earlier eras of respiratory research were dominated by asthma and chronic obstructive pulmonary disease (COPD) trials, the coming years would see exponential growth in studies on bronchiectasis and mucus hypersecretor phenotypes. He urged Indian clinicians to become partners in this evolving field by documenting their data systematically and maintaining uniform case record forms, given India's vast patient pool and potential to generate impactful researchscoring tools, and imaging.

Dr. Shyam Krishnan briefed on CMH. He also emphasized non-pharmacological management that mucus clearance is as essential as pharmacotherapy in addressing CMH. He concluded by urging clinicians to combine clinical observation, validated tools, and structured data collection to build an Indian evidence base for CMH management and bronchiectasis research.

The event concluded with shared key takeaways from all speakers, emphasizing early diagnosis, individualized treatment plans, and integrating airway clearance techniques into routine care.

Date: 17th October 2025

Venue: ITC Royal, Kolkata

Total Participants: 41

Agenda

17th October 2025

7:00 p.m. to 10:00 p.m.

ITC Royal, Kolkata

Topics	Speakers	Timings
Welcome and Introduction	Dr. Ronak Panwala	7:00 p.m. to 7:05 p.m.
Chronic Mucus Hypersecretion: Causes and Consequences	Dr. Raja Dhar	7:05 p.m. to 8:20 p.m.
TEA BREAK		8:20 p.m. to 8:30 p.m.
Non-Pharmacological Management of CMH Focus on OPEP	Dr. Shyam Krishnan	8:30 p.m. to 9:40 p.m.
Key Takeaways		9:40 p.m. to 9:55 p.m.
Vote of Thanks		9:55 p.m. to 10:00 p.m.

Summary of the Event

Dr. Ronak Panwala gave a brief introduction on burden of CMH across respiratory diseases highlighting the importance and the impact of the session and introduced the speaker Dr. Raja Dhar.

Chronic Mucus Hypersecretion: Causes and Consequences by Dr. Raja Dhar

Dr. Raja Dhar began his session by thanking the attendees and faculty, introducing Chronic Mucus Hypersecretion (CMH) as an important yet often neglected topic. Dr. Raja Dhar positioned the coming decade as a period of accelerated research on mucus and bronchiectasis, urging clinicians to generate and systematize Indian data (consistent case record forms) to advance both science and care.

Real-world prevalence and phenotypes

Across the room, clinicians estimated ~30–50% of their chronic obstructive pulmonary disease (COPD) outpatients as chronic mucus hypersecretors; post-TB airways disease ("TOPD" / chronic bronchitic variant) was repeatedly cited, with many reporting sputum burden despite therapy. Asthma, bronchiectasis, smokers without spirometric obstruction, and overlap phenotypes were also discussed. Literature cited by the speaker aligned with ECLIPSE (~1/3 of COPD) and COPD gene (~1/4) for CMH prevalence; 20–40% of asthma patients may exhibit excess sputum.

Impact on outcomes

In SubPopulations and InteRmediate Outcome Measures in COPD Study (SPIROMICS), CMH associated with worse quality of life (SGRQ/CAT impairment in ~50% of evaluable patients), higher exacerbation frequency, and increased mortality (5-year follow-up: persistently CMH-positive group showed higher odds of death). Longitudinal imaging linked persistent mucus plugs with steeper FEV_1 decline, especially in men.

Diagnostic approach and measurement challenges

The group contrasted evolving CMH definitions (MRC-based chronic bronchitis analogs; SGRQ-CMH; CASA-Q domains covering frequency, color, functional/social burden). In routine practice, a targeted history—separating cough v/s phlegm, amount, color, diurnal pattern, and impact—is critical, even when full questionnaires are impractical. Social stigma (sputum equated with TB; swallowing sputum) and "rattly chest but no expectoration" (notably post-TB small-airway disease) complicate ascertainment and documentation. Clinicians were reminded to make patients cough during auscultation—for post-tussive changes and characteristic cough "signatures" (e.g. bronchiectasis v/s uncontrolled asthma).

While CT is the best tool to localize mucus plugs and bronchiectasis changes, chest X-ray clues include central linear/nodular opacities with peripheral lucency/hyperinflation. In severe asthma, CT-identified mucus plugs correlate with eosinophilic airway inflammation and may predict better biologic response—a functional/therapeutic linkage.

Special clinical scenarios discussed

- NIV dependency loop: CMH patients on NIV can enter a cycle of plugging, V/Q mismatch, hypercapnia, greater NIV dependence; strategies included airway clearance, scoping/bronchoscopy in selected acute settings, and tailored physiotherapy.
- Elderly/frail with poor cough reflex: Consider postural/gravitational drainage, cough-assist, mucolytics, and (hypo)tonic saline; individualize combinations and engage physiotherapists.
- LAMA "double-edged sword" in COPD with CMH: Necessary for bronchodilation, but drier, more viscid plugs may necessitate intensified airway clearance (e.g., OPEP/PEP devices such as Aerobika/Acapella) and closer physiotherapy support.

Non-Pharmacological Management of CMH with a Focus On Oscillatory Positive Expiratory Pressure (OPEP)

Dr. Shyam Krishnan session on non-pharmacological management emphasized that mucus clearance is as essential as pharmacotherapy in addressing chronic mucus hypersecretion (CMH). He began by revisiting the fundamental composition of mucus—98 % water, ~1 % globular proteins, and 0.5 % high-molecular-weight mucin polymers—and explained how alterations in hydration status and mucin structure determine mucus viscosity. In healthy airways, ciliary beating maintains a thin, easily mobile mucus layer; however, dehydration, infection, and epithelial damage lead to thickened, adherent secretions that overwhelm mucociliary transport.

Core principles of airway clearance

Dr. Shyam Krishnan highlighted that non-pharmacological therapy aims to restore mucus rheology and promote expectoration through hydration and mechanical assistance. He compared hypotonic saline nebulization and humidification as first-line measures to rehydrate viscous mucus and loosen airway plugs. The audience discussed misconceptions—such as the belief that dairy intake increases mucus—which Dr. Shyam Krishnan clarified as unfounded, noting that mucus viscosity depends on epithelial hydration, not dietary milk proteins.

He systematically outlined airway-clearance strategies, drawing parallels to physiotherapy protocols:

- Postural drainage and gravity-assisted positioning to mobilize peripheral secretions.
- Chest physiotherapy, including percussion and vibration, to dislodge mucus from airway walls.
- Cough augmentation and huffing techniques for proximal clearance.

These were followed by a discussion on patient-specific tailoring—adjusting frequency and duration of physiotherapy based on lung function, cognitive status, and endurance.

Oscillatory positive expiratory pressure (OPEP) devices

Transitioning to device-based management, Dr. Shyam Krishnan emphasized the utility of OPEP systems such as Aerobika®, and Acapella®, describing them as compact, cost-effective tools that create oscillations and back-pressure during exhalation. This combination helps loosen mucus from airway walls, recruit collapsed alveoli, and reduce air trapping. He cited clinical evidence of improved sputum volume, enhanced FEV_1, and better quality of life with regular OPEP use in COPD and bronchiectasis populations.

Dr. Shyam Krishnan further noted that supervised initiation and adherence monitoring are crucial. In his experience, improper technique often limits benefits; hence, training patients to maintain correct posture, controlled breathing, and adequate session duration is vital. OPEP therapy should be integrated into daily routine, ideally two to three 15-minute sessions, supplemented by hydration and inhaled mucolytics when indicated.

Clinical integration and real-world practice

To illustrate its practical application, Dr. Shyam Krishnan described combining OPEP therapy with bronchodilators and mucolytics for chronic bronchitic phenotypes, particularly in post-tubercular airway disease and severe COPD with persistent sputum burden. In frail or elderly patients unable to perform vigorous coughs, OPEP can serve as a non-invasive mechanical adjunct to enhance clearance and delay hospitalizations.

He concluded by underscoring three pillars of non-pharmacological CMH management:

- Hydration and humidification to optimize mucus viscosity.
- Regular airway-clearance techniques (ACTs) under physiotherapist supervision.
- Consistent use of OPEP devices as a structured, evidence-based adjunct to pharmacotherapy.

These interventions collectively form a holistic care model for CMH—targeting not just symptom relief but long-term preservation of lung mechanics and patient quality of life.

Key Takeaways – Insights on Chronic Mucus Hypersecretion (CMH)

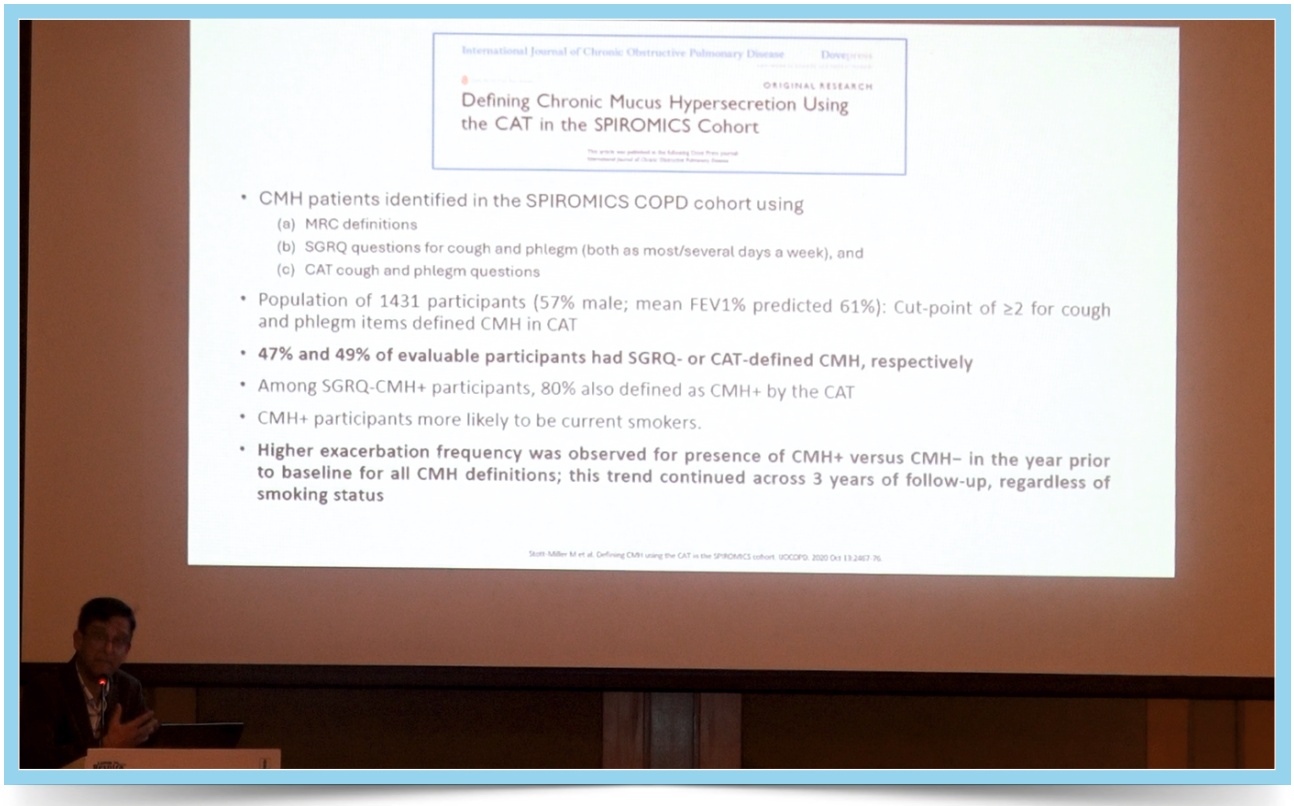
- Chronic mucus hypersecretion (CMH) remains a common yet often under-recognized cause of respiratory morbidity, frequently missed due to inadequate patient reporting and limited clinical assessment.
- CMH is closely linked with chronic respiratory conditions such as COPD, asthma, bronchiectasis, and cystic fibrosis, contributing to accelerated lung function decline, recurrent exacerbations, and diminished quality of life.
- The condition arises from inflammatory responses, oxidative stress, and recurrent infections, which collectively impair mucociliary clearance due to ciliary dysfunction and airflow obstruction, resulting in mucus retention.
- Diagnosis requires a focused clinical history supported by validated assessment tools such as the SGRQ, CAT, and CASA-Q, along with imaging when needed to evaluate mucus burden.
- Management should combine pharmacological therapy with tailored Airway Clearance Techniques (ACTs)—including PEP/OPEP devices, autogenic drainage, and active cycle of breathing techniques (ACBT). Evidence indicates that OPEP devices can enhance ventilation and improve lung function capacity.

Consensus: CMH should be treated as a primary driver of morbidity in chronic lung disease. Early detection, combined management, and active patient engagement are essential for improving long-term outcomes.

At the end of this event, the CME Foundation of India extended its sincere gratitude to the attending delegates and acknowledged Lupin Ltd., the industry partner, for their valuable support and contribution to the success of the event.

SNAPSHOTS OF SUCCESS

Chronic Mucus Hypersecretion – Causes and Consequences



Non-Pharmacological Management of CMH With a Focus On Oscillatory Positive Expiratory Pressure (OPEP)

Branding Opportunity

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Developed by:

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