**Beyond Recognition: Unveiling Emerging Fungal Pathogens at Mycology Reference Centre in India**

**Objectives**

To describe the spectrum of rare fungal isolates referred to and received at the Mycology Reference Centre at All India Institute of Medical Sciences, Bhubaneswar, which was established by the Indian Council of Medical Research with the threefold objectives of expanding the mycology diagnostic portfolio, providing referral services, and training for medical mycology.

**Methods**

Over a 4-year period, unidentified fungal isolates from serious fungal infections were received from across India. These isolates underwent identification through barcode region sequencing to determine their species or genus-level classification.

**Results**

* A total of 409 unidentified isolates were received from across the country
* 325 isolates (79.3%) were identified to the species level
* 25 isolates (6.1%) could be identified only to genus level
* 59 isolates (14.4%) were either contaminated or lost viability in transit

Of the 325 isolates identified to species level:

* 138 (42.5%) were yeasts
* 78(24%) were hyaline molds
* 77 (23.7%) were dematiaceous moulds
* 32 (9.8%) were moulds rarely isolated or never reported from human infections

Among the 32 rare moulds:

* 13 were isolated from ocular infections
* 7 from skin and subcutaneous infections
* 7 from respiratory tract
* 3 from sinusitis
* 2 from unspecified invasive fungal infections

**Conclusions**

Although only a few hundred species of fungi regularly cause fungal infections, newer fungi are increasingly being discovered as infectious agents. Establishing reference centers with adequate facilities can help in the surveillance and identification of novel agents causing human fungal infections, particularly in India, where approximately 4.1% (57,250,826) of the population is impacted by serious fungal diseases.

Table 1: Details of different rare fungi

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| Fungal Name | Organ -Disease | Number of cases |
| *Apiospora marii* | Eye- Keratitis | 1 |
| *Coprinopsis cinerea* | Eye-Keratitis | 1 |
| *Edenia gomezpompae* | Eye-Keratitis | 1 |
| *Fomitopsis meliae* | Eye-Keratitis | 1 |
| *Gibellulopsis nigrescens* | Eye-Keratitis | 1 |
| *Gibellulopsis serrae* | Eye-Keratitis | 1 |
| *Myrothecium inundatum* | Eye-Keratitis | 2 |
| *Neodeightonia subglobosa* | Eye-Keratitis | 1 |
| *Petriella setifera* | Eye-Keratitis | 1 |
| *Schizophyllum commune* | Eye-Endophthalmitis | 1 |
| *Setophoma poaceicola* | Eye-Keratitis | 1 |
| *Subramaniula asteroides* | Eye-Keratitis | 1 |
| *Lasiodiplodia theobromae* | Skin & Subcutaneous infection | 1 |
| *Lentinus squarrosulus* | Skin & Subcutaneous infection (? Chromoblastomycosis) | 1 |
| *Medicopsis romeroii* | Skin & Subcutaneous infection (Phaeohyphomycotic cyst) | 1 |
| *Nigrograna hydei* | Skin & Subcutaneous infection (Phaeohyphomycotic cyst) | 1 |
| *Paraconiothyrium bishopiae* | Skin & Subcutaneous infection (Phaeohyphomycotic cyst) | 1 |
| *Pheoacremonium junior* | Skin & Subcutaneous infection (Phaeohyphomycotic cyst) | 1 |
| *Raghukumaria keshaphalae* | Skin & Subcutaneous infection (Phaeohyphomycotic cyst) | 1 |
| *Cubamyces lactineus* | Respiratory tract Illness (Allergic Bronchopulmonary Mycoses) | 1 (2 isolate from 1 patient) |
| *Falvodon flavus* | Respiratory tract Illness | 1 |
| *Schizophyllum commune* | Respiratory tract Illness | 1 |
| *Schizophyllum commune* | Respiratory tract Illness | 1 |
| *Talaromyces atroroseus* | Respiratory tract Illness | 1 |
| *Triadelphia pulvinata* | Respiratory tract Invasive Fungal Infection- Pulmonary | *1* |
| *Schizophyllum commune* | Sinusitis | 3 |
| *Collariella hexagonospora* | IFI-not specified | 1 |
| *Gambiomyces profundus* | IFI-not specified | 1 |