



# Experience of superficial cutaneous dermatophytosis from five families from Chandigarh, India

Mani Bhushan Kumar<sup>1</sup>, Jagdish Chander<sup>1</sup>, Neelam Gulati<sup>1</sup>, Nidhi Singla<sup>1</sup> and Mala Bhalla<sup>2</sup>  
Government Medical College Hospital, Sector 32, Chandigarh

## Introduction

- ❖ Dermatophytes are keratinophilic fungi that require keratin for their growth.
- ❖ These fungi can cause superficial infections of the skin, hair and nails.
- ❖ These can be classified into three genera: *Trichophyton*, *Epidermophyton* and *Microsporum*.
- ❖ Dermatophytosis may affect about 20-25% of the world's populations.
- ❖ It is widespread in tropical and subtropical developing countries like India, due to high temperature and humidity.
- ❖ Studies on epidemiology of dermatophytosis from various regions of India have shown a **increasing incidence** with a **change in spectrum** of the causative agents as well as **pattern of resistance**.
- ❖ Hence a study was taken up, in order to create awareness and supplement early diagnosis and proper treatment of dermatophytosis.
- ❖ Here we share our experience of dermatophytosis which was observed in families.

## Material and Methods

- ❖ Skin scrapings from the lesions of suspected cases of dermatophytosis in five family members were taken in the Department of Microbiology.
- ❖ From five families - 11 members presented to Dermatology OPD for treatment.
- ❖ Direct potassium hydroxide (KOH) mount was performed and culture was put up on Sabouraud's dextrose agar (SDA) with chloramphenicol and gentamicin, with or without cyclohexamide at 25°C and 37°C.
- ❖ The fungal isolates were identified phenotypically using Lactophenol cotton blue (LCB) mount examination.
- ❖ Slide culture was done to aid identification whenever required.
- ❖ Antifungal susceptibility testing (AFST) was done on the basis of CLSI guidelines using M38-A2 for griseofulvin, terbinafine and itraconazoles

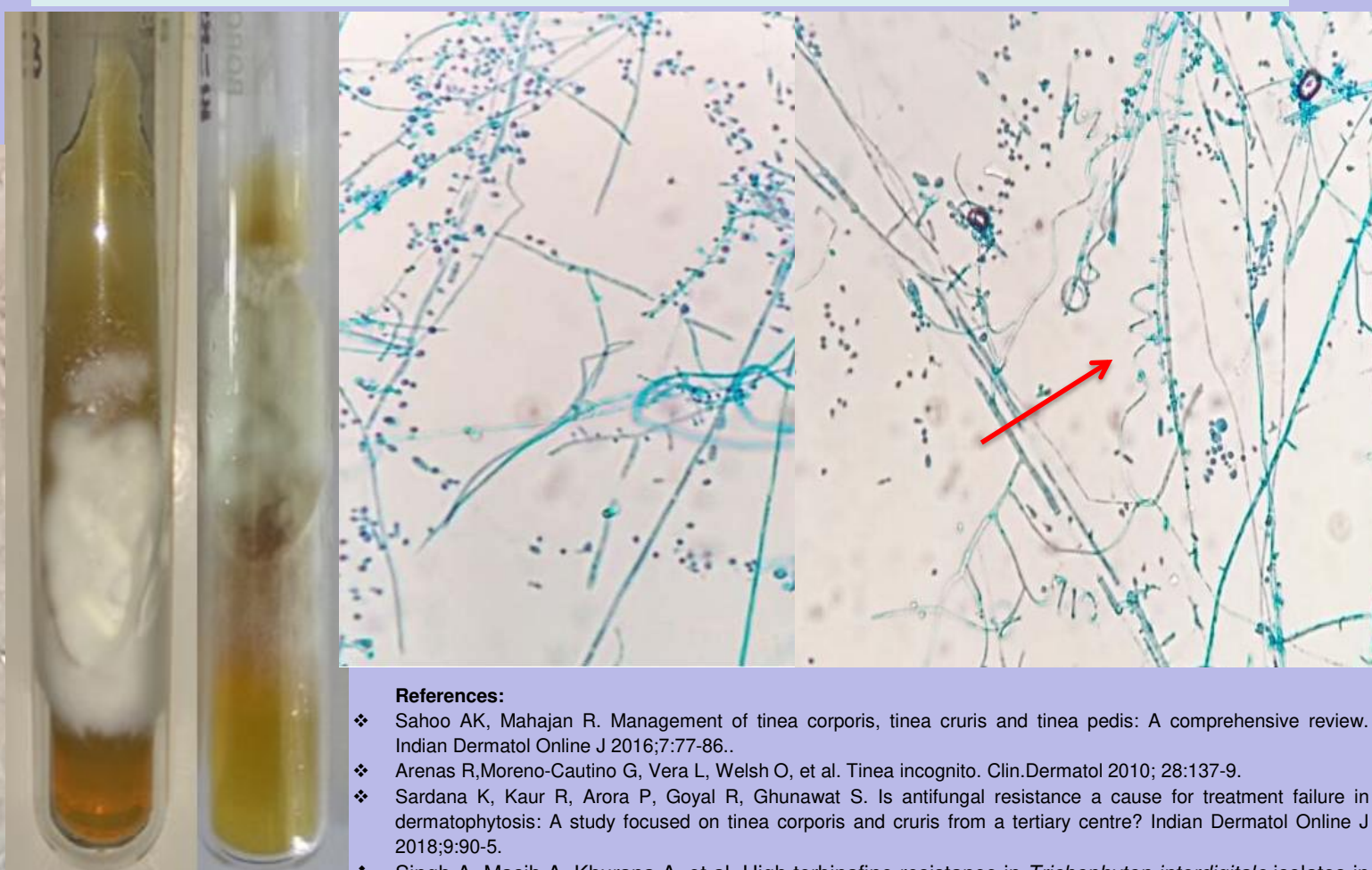
## Results

- In these patients number of lesions varied from two to eight sites and number of family members affected were two to six (50%-100%).
- They had already applied a combination of topical antifungals, antibacterials and steroids for one to two months.
- All the eleven cases were of **tinea corporis** among whom three also additionally had **tinea cruris**.
- Out of eleven cases, six were females and five males.
- All samples were KOH wet mount positive and nine were culture positive.
- All nine culture positive strains were *Trichophyton mentagrophytes*.
- In AFST range of minimum inhibitory concentration (MIC) for *T. mentagrophytes* was **0.25-1µg/ml** for **griseofulvin**, **0.0156 - 2µg/ml** for **terbinafine** and **0.03125 - 0.0625µg/ml** for **itraconazole**.
- Two isolates showed higher MICs for terbinafine (2 µg/ml) and griseofulvin (1 µg/ml). These isolates were from the same family (husband and wife), both were having tinea corporis

	F - 1			F - 2	F - 3	F - 4		F - 5	
	1	2	3			1	2	1	2
Griseofulvin	0.5	0.5	0.5	0.5	0.5	1	1	0.5	0.5
Terbinafine	0.0156	0.0156	0.0156	0.0156	0.0156	2	2	0.25	0.5
Itraconazole	0.03125	0.03125	0.0625	0.03125	0.03125	0.03125	0.03125	0.03125	0.03125

## Conclusions

- Few years earlier the most common cause of dermatophytosis was *T. rubrum* followed by *T. mentagrophytes* in North India (Himachal Pradesh) but now this pattern is changing in many areas with *T. mentagrophytes* becoming the most common species.
- In this study *T. mentagrophytes* (100%) was the only isolate from the five families.
- Two isolates from the same family showing higher MICs for the commonly used antifungal agents, terbinafine and griseofulvin
- **There is also a change in pattern of resistance with emergence of recalcitrant dermatophytosis.**
- In families spread of dermatophytes are common due to sharing of towels, beds etc.



### References:

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