to a new investigation with biopsy for direct research and culture for fungi, being identified Protophloe Widerbergii, by Malili- Toha, with sensitivity to macrurae and amphotericin B. PCR amplification of the genic material obtained in the clinical isolate was performed with purification of product using, and sequencing showed genetic identity of 97.46%, with Protophloe Widerbergii. The sequence obtained was deposited in database under number MZ409514. In the absence of therapeutic response to macrurae (400 mg/kg), and significant worsening of the lesion, with progression of a secondary infection caused by Staphylococcus homotics, treatment with Clindamycin (900 mg/kg for 10 days) and Liposomal Amphotericin B (4 mg/kg for 45 days) were performed. After suspension of Liposomal Amphotericin B, the lesions recurred in 15 days, and voriconazole (200 mg qd 24h) was prescribed for 4 months, with complete resolution of the lesions. Currently, he is free of infections, having been followed up every 6 months.

Conclusion: Rare disease caused by chlorophilous algae may be surprising due to the severity and lack of response to antimicrobials that show sensitivity in vitro.

P100
Potential inhibition of dermatophyte fungi by Australian native jarrah honey

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Objective: Honey has been used as a remedy for multiple ailments, and the antibacterial activity of many different floral honeys has been cumulatively explored. The capacity of honey to inhibit fungi is much less well understood. Here we investigate the inhibition of dermatophyte species by Australian jarrah honey.

Methods: Jarrah honey was sourced from beekeepers and commercial suppliers. Artificial honey, made from glucose (22.3%), fructose (20.7%), and sucrose (14.1%), was used to control for osmolality. Hydrogen peroxide production by honey was assessed using horseradish peroxidase (HRP)-diaminobenzidine (DAB) colorimetric test. Dermatophyles included Microsporum Can- nis, M. audouini, M. japonicum subsp. procer, T. rubrum, T. interdigitale, T. mentagrophytes, T. tonsurans, and T. fuscum. Minimum inhibitory concentrations (MICs) and minimum fungicidal concentrations (MFCs) for honey were assessed using CLSI methods. Fluorescent and scanning electron microscopy were used to visualize the effect of honey on fungal cytology and hyphae.

Results: Jarrah honey inhibited the growth of the dermatophyte species with MICs ranging from 1.5–5.3% w/v, and MFCs from 2–5% w/v. No antifungal activity was seen with the artificial honey indicating this was not due to osmolality. Microscopy revealed that the cytoplasmic extensions of control and caused hyphae to become and collapse. While the inhibitory action of jarrah honey was greatly reduced by the addition of catalase suggesting hydrogen peroxide production was responsible for inhibition and killing, microscopy revealed hyphae were still distorted suggesting there are agents within honey that augment antifungal activity. REDOX state of hyphae failed to detect internal oxidative stress within hyphae, indicating that damage likely occurs on the hyphal surface.

Conclusion: Jarrah honey is a non-toxic agent that may have utility in the treatment of superficial fungal infections caused by dermatophyte fungal species.

P101
Nuclear magnetic resonance-based identification of metabolites in dermatophytes

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Objective: Nuclear magnetic resonance (NMR) spectroscopy provides a holistic snapshot of the metabolome of an organism. Thus, it is a robust tool that can help the NMR metabolic platforms to study dermatophytes, despite its potential for rapid identification and subsequent application of the knowledge in performing faster antifungal susceptibility testing of dermatophytes. Here we attempted to study the frequency of various species of dermatophytes in clinically suspected cases of dermatomycoses and perform NMR-based identification of metabolites in the culture suspension extracts of T. mentagrophytes and T. rubrum.

Method: This was a hospital-based prospective study conducted in the isolates obtained from clinically suspected cases of Dermatophytoses in the patients. Skin, nail, and hair samples of patients suspected with superficial fungal infections were processed for dermatophytes using conventional microbiological methods. NMR-based identification of metabolites was carried out in cell extracts prepared from the culture suspensions of T. mentagrophytes and T. rubrum obtained during the study from a subset of the clinical isolates from the samples.

Results: Dermatophytes were isolated in 81.8% (218/267) cases, with T. mentagrophytes being isolated in 65% (143/218) of isolates, followed by T. rubrum in 31.5% (69/218) isolates. In NMR study, the T. mentagrophytes strain (ATCC95953) and T. rubrum (ATCC266045) and representative clinical isolates of both the species. Overall, 24 metabolites were identified in T. rubrum and 23 metabolites in T. mentagrophytes amongst which 22 metabolites were common to both fungi, however, 4-hydroxyproline and ‘acetate’ was found specific to T. rubrum, and ‘allantoin’ was found specific to T. mentagrophytes.

Conclusion: T. mentagrophytes was the predominant dermatophytic species in the study. Amongst the number of metabolites detected in T. rubrum and T. mentagrophytes, ‘4-hydroxyproline and ‘acetate’ was found specific to T. rubrum, and ‘allantoin’ was found specific to T. mentagrophytes. These specific metabolites could be useful for early identification of these dermatophytes as well early determinations of antifungal susceptibility by using metabolic profiles, further large-scale study will be helpful in the regard.