

ECMM travel awardees IX National Conference of SIHAM, Siliguri, India, 10-12 February 2012

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On 10-12 February 2012 the IX National Conference of SIHAM (Society for Indian Human & Animal Mycology), took place in Siliguri, India. Please find below the abstracts of the 5 ECMM travel awardees:

ECMMTA – 01 ONYCHOMYCOSIS IN GREEN TEA LEAF PLUCKERS : AN OCCUPATIONAL HEALTH

HAZARD Dr.Purnima Barua, Dr. S Barua, Dr. N Barua, Dr. J Mahanta, Dr. Bk

Borthakur, Dr. Mr Shivaprakash Assistant Professor, Department Of

Microbiology, Jorhat Medical College, Jorhat Clinical features and

mycological patterns of onychomycosis show variation in time and

place. Onychomycosis though not serious in terms of mortality have

significant clinical consequences such as chronicity, therapeutic difficulties

and aesthetic disfigurement and may also be detrimental to the economy of

agro industries like tea as it incapacitates the pluckers who use their fingers

for plucking leaves which in turn affect their earning and cause man days

loss to the tea industry. The study was undertaken to determine the

prevalence of onychomycosis and to study its morphological patterns and

mycological profile amongst a special group of workers belonging to the tea

industry. Of the 1691 tea pluckers screened, 128 (7.6%) were found to have onychomycosis.

Mycological isolates were recovered in 90 (70.3%). Distal and lateral subungual onychomycosis was

the most prevalent clinical presentation. Finger nails were most commonly affected. Non –

dermatophytic molds (NDM) constituted the predominant isolate (56.6%) followed by dermatophytes

(28.8%) and yeast (14.4 %). This is the first prospective clinic- mycological study of onychomycosis

among green tea pluckers. The unexpectedly high prevalence of non – dermatophytic onychomycosis

in our study can be attributed to constant occupation related subclinical trauma as green tea pluckers

are a group of agro industry workers who uses mainly the thumb and index finger to pluck leaves

besides NDM `s constitute a major part of tea foliage flora. The increased prevalence of onychomycosis

caused by wide range of fungi now recognized as potential pathogens demands accurate laboratory

isolation and identification for institution of appropriate therapy.



---- ECMMTA-02 OUTCOME AND SAFETY OF DEFERASIROX FOR MUCORMYCOSIS Neha Gupta, Rajeev

Soman, Anjali Shetty, Camilla Rodrigues Sr Clinical Associate in Department

of Medicine & Division of Infectious Diseases P.D.Hinduja National Hospital

and Medical Research Centre, Mumbai Mucormycosis is associated with high

mortality despite the use of current first-line therapies. Deferasirox, an iron

chelator, has fungicidal activity due to its novel mechanism of action and is

found to be synergistic with liposomal amphotericin B (L-AmB) in a murine

model of disseminated mucormycosis. The role of deferasirox may be

particularly important in conditions where a complete surgical debridement

is not possible. We describe the outcome and safety profile of open-label,

adjunctive deferasirox iron chelation therapy in seven patients with biopsy-

proven mucormycosis. Deferasirox was used as adjuvant therapy in skull

base mucormycosis (n=3), extensive abdominal wall mucormycosis post appendicectomy (n=1),

bilateral renal mucormycosis (n=1), sinoorbital mucormycosis with dural involvement (n=1), and



rhinorbital mucormycosis (n=1). It was administered for an average of 14 days (range, 14 to 28) at 20 mg/kg of body weight/day. Deferasirox treatment was not associated with any attributable side effect or changes in complete blood count, renal or liver function. All the 7 patients were successfully treated. While L-AmB may be better as higher doses can be used, amphotericin-B-deoxycholate (AmB-d) was used in 6 of the 7 patients due limitations of dose and nephrotoxicity. Therefore, when L-AmB cannot be used due to cost considerations a greater demand is placed on adjunctive therapy. As deferasirox was used as adjuvant therapy to surgical debridement and AmB-d, the actual contribution of deferasirox to overall outcome cannot be judged accurately. However, as mucormycosis has a poor outcome unless surgical debridement is complete, we believe that deferasirox may have contributed to the improved overall outcome.

--- ECMMTA-03 A STUDY ON SPECIATION AND ANTIFUNGAL SUSCEPTIBILITY PATTERN OF CANDIDA ISOLATES FROM HIV PATIENTS WITH OROPHARYNGEAL CANDIDIASIS AND CORRELATION WITH CD4 COUNT Dr.K.S.Kumudhavalli, Dr.Kalpanadevi, Dr.S.Geethalakshmi, Dr.R.Manjula Institute of Microbiology, Madras Medical College & Rajiv Gandhi Govt. General Hospital, Chennai – 600003

ABSTRACT: Oropharyngeal candidiasis is an indirect marker of immunosuppression in HIV patients. Study was performed to isolate and speciate Candida species from the lesion, to determine their antifungal susceptibility pattern and its correlation to CD4 count among 150 HIV positive patients showing clinical picture of oral candidiasis. Isolates were speciated based on Germ tube test, growth on Corn Meal Tween 80 Agar, Candida CHROM agar, Sugar fermentation and assimilation tests. Antifungal susceptibility testing was done by Disk Diffusion and Microbroth dilution methods. CD4 count estimation was done by Fluorescent Activated Cell Sorter count system. Candida species were isolated from all 150 samples yielding culture positivity of 100%. Distribution of the isolates were Candida albicans(78%), Candida tropicalis(11%), Candida krusei(5%) Candida parapsilosis(4%) Candida glabrata(1%) and Candida guilliermondii(1%). Resistance pattern of Candida isolates by disk diffusion method were 13.8% to Fluconazole, 15.8% to Itraconazole, 4% to Ketaconazole, 9% to Clotrimazole and 5% to Nystatin. By Microbroth dilution, 11.8% of candida isolates exhibited MIC in the resistant range (>64µg/ml) to Fluconazole and 15.1% of candida isolates were in the resistant range (>1µg/ml) to Itraconazole. All isolates were susceptible to AmphotericinB. Among 150 HIV positive patients with oral lesion 70% patients had CD4 count < 200cells/µl. It was concluded that Candida albicans is the most frequently isolated sp from HIV seropositive patients and Non albicans candida species are emerging as important pathogens with increasing rates of azole resistance. KEY WORDS: Oropharyngeal candidiasis, Candida albicans, Disk diffusion method, Microbroth dilution method.



--- ECMMTA-04 ENZYMATIC ACTIVITIES AND ANTIFUNGAL SUSCEPTIBILITIES OF CLINICAL AND ENVIRONMENTAL STRAINS OF CRYPTOCOCCUS NEOFORMANS AND C. GATTII IN CENTRAL INDIA Nawange S.R. 1, 2, Gutch R.S. 1, Singh S.M. 1 & Yadu R. 1 Medical Mycology Research Laboratory, Department Of Biological Sciences, Rani Durgavati University, Jabalpur-482001 (M.P.) India Fungal Disease Diagnostic And Research Center, 1570 Near M.H. Hospital Wright Town Jabalpur-482002 (M.P.) India

In this study we first time report correlation between antifungal susceptibilities and enzymatic activities of *C. neoformans* and *C. gattii* isolates. We performed investigation of 168 environmental isolates {*C. neoformans* (148), and *C. gattii* (20)}; and 20 clinical isolates {*C. neoformans* (16) and *C. gattii* (4)}. Screening was done by using agar plate methods. Environmental isolates PL activity was found to be 83.93%; (C.n=88.65%, C.g = 11.35%) and Sap activity was 80.95% by BSA method; (C.n =88.23%, Cg =11.76%), and by gelatinase method Sap activity was 88.09%; (Cn =90.54%, Cg=9.46%). Sap activity of clinical isolates was 75%; (C.n =73.33%, C.g=26.67%) using BSA method, via gelatinase method Sap activity was 90% (C.n= 77.78%, C.g=22.22%), versus their 85% (C.n=76.47%, C.g=23.53%) of PL activity. The Pz values of different isolates ranged between 0.40-1. Higher enzymatic activities is an indicator of virulent nature of these isolates and may be responsible for higher MIC values obtained against few *C. neoformans* and *C. gattii* isolates . When comparing the difference between resistant *C. neoformans*, (environmental 148 strains, positive for BSA, gelatinase, phospholipase), by student't' test , itraconazole showed significant difference while fluconazole and ketoconazole did not showed a significant difference ($p < 0.05$). Comparing the resistant *C. neoformans* and *C. gattii* (environmental and clinical) strains for the three azoles, no significant difference was observed between the three enzymatic activities. Isolates which were not enzyme producers were susceptible to all the three anti-fungals tested. Higher enzyme production seems to be linked to higher anti-fungal susceptibilities of these isolates. Correlation exists between BSA production and MIC values of environmental *C. neoformans* isolates for the drug ketoconazole, correlation also exists between gelatin versus itraconazole, Pearson's correlation coefficient method was used. We conclude that further investigations is warranted on phospholipase and Sap activities and antifungal susceptibilities of *Cryptococcus neoformans* and *C. gattii*, in order to clarify their contribution to fungal virulence.



--- ECMMTA-05 DIAGNOSIS OF INVASIVE FUNGAL INFECTION BY A REAL TIME PANFUNGAL PCR ASSAY IN ICU AND HEMATOLOGY PATIENTS: A PILOT STUDY Malini.R Capoor, Shika Arora Puri, Parul Varshney, D.K Gupta , JC Suri , H.D Sachdeva, M. Deb, P.K Verma Vardhman Mahavir Medical College and Safdarjung Hospital, New Delhi Invasive fungal disease (IFD) is a life threatening infection in intensive care unit (ICU) and Hematology patients. There is an urgent need for reliable screening methods facilitating timely diagnosis and treatment. A real time pan fungal PCR assay based on Taq Man technology was used to test whole blood specimen obtained from series of ICU and Hematology patients. The pan fungal assay was employed to investigate specimen from 64 patients with IFI. These were also diagnosed by methodological approaches including direct microscopic methods & culture techniques and antigen detection (Galactomanan antigen ELISA and latex agglutination for Cryptococcal antigen). The results of molecular testing were evaluated in relation to the criteria proposed by EORTC and patients were classified as having proven and probable IFD. Specimen from 42 infected patients had positive PCR results. Out of these 33 patients had proven IFI. The blood from 28 patients with candidemia and 3 patients with cryptococcosis showed positive PCR signal. Blood from 2 patients with pulmonary aspergillosis had positive PCR results. The pan fungal PCR assay can detect multiple fungal genera and it may be used as an adjunct to conventional methods for detection of invasive fungal infection.

