Methods & Materials: Case presentation

14-year-old male athlete, starts a month before with progressive increase bulk in medial face of right elbow, erythema, desquamation area and outflow of crystal liquid without smell through the fistula, denies weight loss and fever, mobility limitation and pain with moderate intensity, so attends orthopedist, requested image studies and chronic granulomatous inflammatory reaction is reported by biopsy, necrosis area with multinucleate cells sor- rading capsule’s sporangium with endospores, characteristic of Coccidioides spp. Started with B amphotericin lipid complex with good evolution, change to itraconazole 400 mg orally, currently his progress getting better.

Results: Discussion

Every time they are more reports of infections caused by Coccidioides spp in the literature. The joints are frequently sites of dissemination. The real incidence is unknown in Mexico. It is very important to suspect it since the infection can occur at any age, so this way it can have an impact on the prognostic and decrease the complications. The demonstration of the pathogen is still the gold standard.

Conclusion: Invasive fungal infections are a significant cause of morbidity and mortality, the successful of the treatment involves an early diagnosis, and we propose the boarding of chronic injuries with this characteristics.

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UMP. 512

Epidemiology and clinical characteristics of cryptococcal meningitis in China

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Background: Cryptococcus neoformans is neurotropic and provokes onset of cryptococcal meningitis. In HIV/AIDS patients it is a dangerous opportunistic infection. In Europe and the United States, about 80% of the cryptococcosis cases were associated with HIV/AIDS. But in China, most of patients with cryptococcal meningitis were not HIV victims. It is unclear whether these patients have other underlying diseases except HIV/AIDS and they are mostly in immunodeficient or immunocompetent state.

Methods & Materials: A comprehensive analysis of the reported cases of cryptococcal meningitis in China was conducted, covering publications from 1981 to 2013 from CNKI (China National Knowledge Infrastructure) database with key words of cryptococcus and meningitis and case.

Results: Among the 306 reports and 6514 cases about cryptococcal meningitis in China was conducted, covering publications from 1981 to 2013 from CNKI (China National Knowledge Infrastructure) database with key words of cryptocococcus and meningitis and case. Among the 306 reports and 6514 cases about cryptococcal meningitis in China was conducted, covering publications from 1981 to 2013 from CNKI (China National Knowledge Infrastructure) database with key words of cryptocococcus and meningitis and case.

Results: Among the 306 reports and 6514 cases about cryptococcal meningitis, there were 21% patients with HIV infection, 39% with other underlying diseases and 40% without identifiable underlying diseases. Main underlying diseases in non-HIV/AIDS patients were tuberculosis (10.46%), liver disease (9.83%), systemic lupus erythematosus (7.00%), diabetes (5.26%), kidney disease (3.16%), lung disease (2.97%), and cancer (2.01%). From 1981-2013 year, total patients of cryptococcal meningitis were increased, the patients without underlying diseases were increased more than those with other underlying diseases, but the patients with HIV/AIDS were decreased after 2005. Patients who received treatment of amphotericin B (AmB) with 5-flucytosine, AmB with Fluconazole, and the combination of AmB + 5-FU + FCZ were 495, 411, 266 persons (total 1501 cases) and got a total efficiency of 70.1%, 70.8%, and 74.8% respectively. The survival rate of cryptococcal meningitis patients without HIV/AIDS is higher than those with HIV/AIDS (p < 0.05).
**Conclusion:** The result shows that most patients of cryptococcal meningitis have underlying diseases in China. Except HIV/AIDS, tuberculosis and liver diseases were also commonly seen in those patients, probably due to the high prevalence of tuberculosis and hepatitis B that occur in cell-immunity insufficient persons. So there is a connection between cryptococcal meningitis and immunodeficiency in China. From anal trends of the cryptococcal meningitis, total cases were increased rapidly, but the patients with HIV/AIDS were decreased after 2005. Maybe recently the highly active antiretroviral therapy (HAART) significantly reduced the opportunistic infection incidence in HIV/AIDS patients.

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**UMP. 513**

**Molecular interaction of antifungal compounds with fungal type I Polyketide synthase and preventing hepatocarcinogenesis**

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**Background:** Type I fungal Polyketide synthase (PKS) is found in many toxigenic Aspergillus species. PKS is an important biological non-reducing (NR) type enzymes. It possesses highly active Acyl Carrier Protein (ACP) domain that is implicated in thiol ester-bound intermediates in involved in fungal polyketides, fatty acids and other non-ribosomal peptides formation. These natural polyketides and fatty acids are participated in formation of aflatoxin biosynthesis. These aflatoxins are highly responsible for hepatocarcinogenesis (HCC), one of the most commonest cancer among humans living in tropical regions. The HCC has also been shown the synergetic effect with viral infections especially hepatitis B. The risk of HCC is drastically increased under epidemic exposure of aflatoxin contaminated feed and hepatitis B that can be fatal if delay in diagnosis and proper treatment.

**Methods & Materials:** The ACP domain as 3D coordinates 2KR5.pdb of polyketide synthase of Aspergillus parasiticus is taken from RCSB. The requisite antifungal ligand files for docking purpose i.e. neoeriocitrin (CID: 114627), blasticidin-S hydrochloride (CID: 258) and pipernonaline (CID: 9974595) protein were retrieved from PubChem Database. The protein preparation, ligand library preparation, sites identification and docking (LibDock Score) were performed by using dynamic software Discovery Studio version 3.5.

**Results:** In the three different sites, site 1 (x: -7.589; y: -2.949; z: 4.007) shown the most effective docking results. At this site 1, the highest LibDock score of 160.282 for 2KR5-neoeriocitrin had shown the successful inhibition of polyketide synthase. Lys4, Asp80, Gly84, Gly86, Asp87 and Gly89 are the amino acids of the protein that are interacted with neoeriocitrin.

**Conclusion:** The Computational study and prediction of three different active sites in ACP domain of PKS of Aspergillus parasiticus had shown the successful interaction with proper ligands. The neoeriocitrin and similar other organic compounds are the very effective flavonoid found in grape fruits that can essentially use in treating HCC and Hepatitis patients.

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**UMP. 514**

**Diversity of yeasts associated with bovine subclinical mastitis in periurban dairy farms in Kaduna metropolis, Kaduna state, Nigeria**

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**Background:** This study aimed to examine the diversity of yeasts associated with bovine subclinical mastitis in periurban dairy farms in Kaduna Metropolis, Kaduna State, Nigeria.

**Methods & Materials:** A cross-sectional study was conducted on 26 dairy farms drawn from 4 local government areas in the state. A total of 300 composite milk samples were collected from 300 cows-in-milking and examined using molecular techniques.

**Results:** 37 (12.3%) fungal isolates were identified using the API 20C AUX as; (9) Candida albicans, (4) Candida famata, (4) Candida krusei, (1) Candida boidini, (1) Candida pelliculosa, (1) Candida lusitaniae, (5) Trichosporon mucoides, (1) Cryptococcus laurentii, (1) Cryptococcus albidus, (2) Saccharomyces cerevisiae, (2) Stephanoascus ciferrii, (2) Rhodotorula mucilaginosa, (1) Kloeckera spp., (1) Kodamaea ohmeri and (1) Geotrichum capitatum. All C. albicans had the ability to survive high temperature, produced germ tubes in human serum and formed chlamydospores in corn meal-tween 80 Agar. In-vitro sensitivity test using five antymycotic agents showed that 85% of the isolates were sensitive to amphoterican B, followed by griseofulvin, nystatin, variconazole and fluconazole in decreasing order. Nested PCR of the D1/D2 domains of the 26S rRNA gene of 11 yeast isolates showed they all had a distinct band- 600 bp. DNA sequenc- and GenBank BLASTN of the eleven genes identified them as: (3) Candida albicans, (1) Saccharomyces cerevisiae and (7) Pichia Kudriavzevii. The D1/D2 26S rRNA gene sequences were 93-100% identical for yeast isolates within the same species. Phylogenetic reconstruction based on the D1/D2 26S rRNA gene sequences grouped them into 3 clusters and showed heterogeneity in C. albicans.

**Conclusion:** The relatively high prevalence of yeasts in bovine subclinical mastitis in dairy herds could significantly reduce milk production and cause economic losses. The milk samples contained diverse yeast species including isolates of the pathogenic yeast C. albicans and this raises the possibility of milk and dairy products being vehicles for transmission of pathogenic yeasts. It is therefore recommended that the farmers practice good milking hygiene, milk clinically infected cows last, cul chronic mastitis cases, treat clinically infected cows and administer dry period therapy to their cows.

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