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ANTI FUNGAL RESISTANCE PATTERNS IN VULVOVAGINAL CANDIDIASIS IN SRI LANKA

Introduction

Vulvovaginal Candidiasis is a prevalent reproductive health issue affecting all over the world. Vulvovaginal candidiasis is a common mucosal infection caused by candida species that occurs with itching, burning , abnormal vaginal discharge , dysuria. It can lead to recurrent, complicated disease in some cases. In severe form it can lead to extensive vulvar inflammation, erosion and negative impact on quality of life requiring systematic treatment. In Sri Lanka, Anti-fungal resistance has become a critical public health concern, facing challenges for effective treatment and management. Factors such as misuse or overuse of drugs, metabolic diseases contribute to increase the rate of resistance. Biofilm formation ability of certain Candida species including Candida albicans, non-albicans species (*C. auris, C. tropicalis, C. krusei* and etc.) complicate the treatments . The present of non-albicans species which are known to be intrinsically resistant to azoles emphasizes the importance of species-level identification in recurrent cases [1].

Biofilms not only provide a protection for microorganisms against anti-fungal agents but also enhances their resistance. Biofilm formation was significantly associated with reduced anti-fungal susceptibility, particularly among non-albicans species [2].

Candida species causing different patterns in anti-fungal susceptibility which impact treatment choices, complications and prognosis. It shows some species are multi drug resistant and that can increase recurrent infections, chronic infections, sex dysfunctions, complications and negative outcomes in quality of life.

Goal

To study about patterns of anti-fungal resistance in vulvovaginal candidiasis in Sri Lanka.

Material and methods of research

An anonymous online questionnaire survey was conducted among 102 Sri Lankan patients aged 18–40 years who had been previously diagnosed with vulvovaginal candidiasis. Questions consist with patient's history, resent episodes and treatments, laboratory tests results (species identification, anti-fungal resistance, biofilm status), medical history, recent antibiotic usage, diabetic, pregnancy and usage of immunosuppression. Primary data were collected via a structured Google Forms questionnaire. Responses synced to Google Sheets for cleaning and validation and systematic organization. Each survey response was recorded as a unique row with a corresponding timestamp to ensure data traceability.

The results of the research and their discussion

There were 26.7% first episode of candidiasis and 66.3% more than one-time experienced patient among the surveyed patients. In the past six months 67.5% used prescription oral tablets

(fluconazole, Amphotericin b), 18.8% over the counter creams (eg: canes-ten, monistat, 7.5% prescription vaginal creams (eg: Terconazole) and rest of them used herbal and traditional remedies.

Among the patients who getting treatment for this episode in 14 days, 44.6% are getting clinical cure (symptoms resolved). 55.4% of patients' symptoms persist or worsen.

Following pie chart showing the display the distribution of Candida species identified from survey responses.

Identified via chroma-gar / biochemistry / VITEK tests 57.8% are *Candida albicans,* 17.6% *Candida auris, Candida* 13.7% *candida krusei and rest candida tropicalis, candida glabrata*, *Candida parapsilosis* and other.

78.3% of candidasis auris positive patients are resistant Fluconazole and 65.2% resistant to Amphotericin B 4.5% of candida krusei positive patients are resistant Fluconazole. It shows 83.3% fluconazole resistance in candida Tropicalis and there is no fluconazole and Amphotericin B resistance in Candida albicans are observed.

Depending on cost, technical, professional capacity 63.8% aren't tested. 36.2% positive results are shown. Even though it's not common test to perform still have 36.2% is positive. Thus, it's important to make awareness about the local epidemiology for formation of strains, overuse and misuse of drugs and others.

Conclusions

The study found out most common species are *Candida albicans* (57.8%) but non albicans are also frequent. Thus, all vulvovaginal candidiasis couldn't be *Candida albicans* just because it's common.

And also *C. Auris* is highest resistance to fluconazole and amphotericin (most common drugs which are used in Sri Lanka). Non-albicans *(C. tropicalis , C. krusei)* also significantly resistant to fluconazole. *C. albicans* remain susceptible.

Rarely biofilm tests performed but from the performed test portion significant portion (36%) biofilm producers. Biofilm formation increases treatment failure and resistance. Expanding testing, education about outcomes is important.

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COMPARISON OF MENSTRUAL CYCLE PATTERNS DURING EXAMINATION PERIODS AND NON-EXAMINATION PERIODS IN FEMALE STUDENTS

Introduction

The menstrual cycle is a complex physiological process regulated by the delicate interaction of the hypothalamic-pituitary-ovarian (HPO) axis [1, 2]. This regulatory system is sensitive to