## Studies On Triazole Resistant Candida Albicans Expressing ERG11 Gene Among Adult Females In Abakaliki; Nigeria

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Abstract: ERG11 gene has been reported to be one of the genes whose expression is responsible for resistance of Candida to various triazole drugs, which are first line treatment for candidiasis. This study was carried out to determine the prevalence of Triazole (Fluconazole and voriconazole) resistant Candida albicans expressing ERG11 gene from adult females in Abakaliki. Urine and vaginal swab samples were randomly collected from volunteers after obtaining their consent to participate in the study. A total of 565 adult females participated in the study. A total of 340 urine specimens and 288 vaginal swab specimens were collected. Direct wet mount technique, as well as culture in Trichomonas broth, were used to examine the urine and vaginal swab specimens for the presence of motile Trichomonads. The Trichomonas broth used was selective for both T. vaginalis and C. albicans. Broths that yielded budding yeast cells after microscopy were subcultured on to Sabouraud dextrose agar, after which Germ tube test was carried out to confirm the presence of C. albicans. Biochemical tests, including carbohydrate fermentation and urease utilization, were also performed. Antibiogram of C. albicans isolates obtained from this study was carried out using commercially available azole drugs. Fluconazole and voriconazole were selected as Triazole drugs used for this study. Nystatin was used as a tangential control. An MIC test was carried out with E-strips on some of the resistant C. albicans isolates A total of 6 isolates that resisted all the azole drugs were selected and screened for the presence of ERG11 gene using Reverse transcriptase polymerase chain reaction technique. The total prevalence recorded for C. albicans was 13.0%. Frequency was statistically higher in Pregnant (7.96%) than non pregnant (5.09%) volunteers (X2=0.94 at P=0.05). With respect to clinical samples, frequency was higher in vaginal swabs samples (7.96%) than Urine samples (5.09%) (X2=9.05 at P=0.05). Volunteers within the age group 26-30 years recorded the highest prevalence (4.46%), while those within the age group 36-40 years recorded the lowest at 1.27%(X2=4.34 at P=0.05). In pregnant female participants, the highest frequency was recorded with those in their 3rd trimester (4.14%), while lowest incidence was recorded for those in their first trimester (0.80%). Antibiogram results from this study showed that C. albicans isolates obtained from this study resisted Fluconazole (72%) more than Voriconazole (57%). Only one out of the six selected isolates yielded resistance in the MIC test. Results obtained from the RT-PCR showed that there was no expression of ERG11 gene among the fluconazole resistant isolates of C. albicans. Observed resistance may be due to other factors other than expression of ERG11 gene. Keywords : candida, ERG11, triazole, nigeria

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