CHRONIC DISEASE MANAGEMENT

through physical activity

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CHRONIC DISEASE MANAGEMENT THROUGH PHYSICAL ACTIVITY

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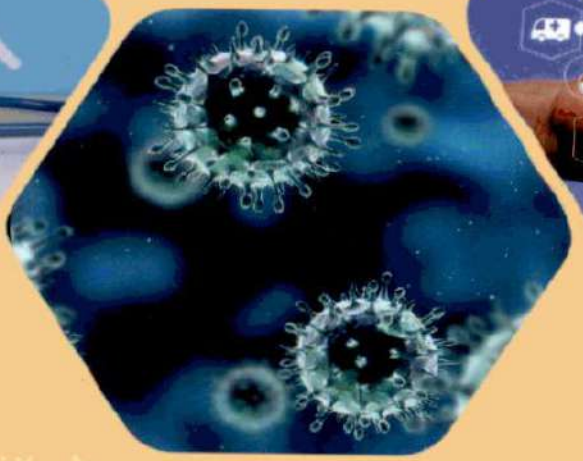

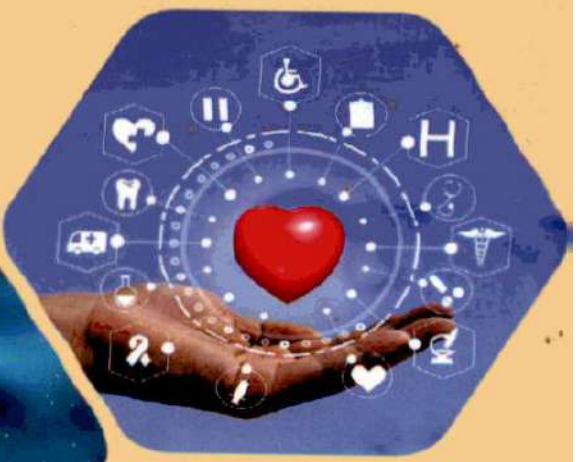

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Concepts and practices

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ASSOCIATION OF CARBAPENEM RESISTANCE AND BIOFILM PRODUCTION IN CLINICAL ISOLATES OF *ACINETOBACTER BAUMANNII*

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ABSTRACT

Background: Recently, *Acinetobacter baumannii* (*A. baumannii*) has emerged as significant hospital pathogen, notoriously known to acquire antibiotic resistance to most of the commonly prescribed antimicrobials. Many risk factors are associated with *A. baumannii* infections, especially the ability of biofilm production. The relationship between biofilm production and antibiotic resistance is of substantial interest of research.

Materials and Methods: The present cross-sectional study was conducted in the Department of Microbiology, IMCH&RC, Indore. All the isolates of *A. baumannii* were obtained from different clinical samples from patients admitted in the hospital and identified by using standard microbiological procedures. The antimicrobial susceptibility testing was done by using disk-diffusion method and results were interpretated as per CLSI guidelines. Biofilm production was determined by microtiter plate method.

Results: A total number of 168 Acinetobacter species including 143 *A. baumannii* were isolated from the various clinical specimens. The higher antibiotic resistance pattern was seen to ceftazidime (100%), ceftriaxone (100%), cefepime (94%), imipenem (92%), meropenem (90%). The resistance was low to doxycycline (39%) colistin (8%). Out of 143 *A. baumannii* isolates 132 (92%) isolates were found carbapenem resistant, these isolates were further tested for biofilm production. One hundred eleven (84%) carbapenem resistant *A. baumannii* isolates were positive (44% strong positive, 32% moderate positive and 8% weak positive) for biofilm production, while 16% were negative. The association between carbapenem resistance and biofilm production was analysed statistically and p-value was found to be significant (p-value =0.002; p-value < 0.05 is significant by Chi – Square Test).

Conclusion: The study concluded that there is significant association between carbapenem resistance and biofilm production in *A. baumannii*.

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INCIDENCES OF MUCORMYCOSIS IN PATIENTS WITH COVID-19 AT TERTIARY CARE HOSPITAL

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ABSTRACT

Background: The COVID-19 pandemic has led to increases in the cases of mucormycosis in India; rhino-orbito-cerebral mucormycosis is considered the most common type of mucormycosis, which is acquired by inhaling fungal spores in the paranasal sinuses.

Material and methods: A prospective study conducted in the Department of Microbiology, DUPMC, Jalgaon, Maharashtra from January 2021 to December 2021. The patients who were suspected with COVID associated Mucormycosis based on mycological laboratory finding in KOH mount microscopy which shows wide hyphae without septa and further conformation done by conventional culture methods and clinical features. We also collected demographic and predisposing factor data.

Results: A total 66 patients were including in this study; the KOH microscopy was observed and positive in 32(48.4%) and 14 (21.2%) were confirmed by conventional culture. The majority of patients age group ranged between 41 to 60 years 35(53.03%) and 30 to 40 years 10(15.15%) who were affected with COVID associated Mucormycosis. The patients were affected with multiple organs 27(40.90%) and 39(59.09%) patients were singly affected organs. The most common patients were diabetics (65%) and 78% used steroids for the treatment of COVID-19. Thirty-seven (56.06%) patients with mucormycosis had received O2 therapy. Of the total patients with mucormycosis 15% needed ICU admission and 16% patients needed ventilators, 78% needed surgical & medical treatment where 12% patients taken medical treatment only. In this 81% were discharged, 9% referred to higher center for further treatment and 9% patients died due to Mucormycosis and Post COVID-19.

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ANTIMICROBIAL RESISTANCE PATTERNS WITH SPECIAL REFERENCE OF HIGH-LEVEL GENTAMICIN RESISTANCE (HLGR) AND VIRULENCE FACTORS IN CLINICAL ISOLATES OF ENTEROCOCCI SPECIES AT A TERTIARY CARE CENTRE

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ABSTRACT

Background: The aim of this study was to Enterococci species have emerged as most of the nosocomial pathogenic bacteria and have been found to possess many types of virulence factors, in resistance of high-level gentamicin, and some of which are considered very important in the pathogenesis of diseases caused by them.

Material and methods: A total of 86 non-identical clinical isolates of Enterococci species were obtained from clinical samples at a tertiary care centre. Resistance to high level gentamycine was determined by using disk diffusion method, and virulence factors were detected by phenotypic method.

Result: Out of 86 isolates of Enterococcus species from various clinical specimens were tested for high level gentamycine resistance & virulence factors by phenotypic method. In this study comparison between high level gentamycine resistance (HLGR) and virulence factor in Enterococcus species. Out of 57 (66.3%) were urine samples in higher percentage and lower percentage 6 (7%) were body fluids. Antibiotic resistance patterns, Penicillin G & Azythromycin, 91.7% & 88.2% were respectively. Compare with HLGR and virulence factor in Enterococcus species. Out of 86, 40 were (46.5%) shows high level gentamycine resistance, and virulence factors such as hemolysine, geletinase, & biofilm production 50 (58.1%), 51 (59.3%) & 25 (29.1%) were respectively positive by phenotypic method.

Conclusion: Compare with Antibiotic resistance pattern in HLGR and with special reference of virulence factor in Enterococcus species which shows significant.

Keyword: Enterococcus, HLGR, Nosocomial, Resistance & Virulence factor.

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