clinicians should be aware that PB can be possible under the following circumstances. In such cases, aggressive treatment, including bronchoscopy and adjuvant therapies, such as inhaled SK, is the key to saving lives and reducing sequelae. We propose a few hypotheses for PB based on our case study.

**ЛИТЕРАТУРА**

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# INCREASING BURDEN OF MICROBIAL RESISTANCE ISOLATED FROM PATIENTS WITH COVID-19 IN THE ERA OF OMICRON

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**Relevance.** High rates of utilization of antimicrobial agents in patients with COVID-19 has led to an accelerated increment in the burden of microbial resistance which poses a threat to infection control measures related to bacterial infections [1].

**Object.** To establish the incidence of continuing trends of antimicrobial resistance in patients with COVID -19 in the Era of Omicron.

**Research methods.** Analysis of antibiotic susceptibility of various bacterial strains isolated from 154 patients of COVID-19 with a positive bacteriological analysis, that were hospitalized at the Grodno Regional Infectious Diseases Clinical Hospital in 2022.

**Results and discussion.** Among the admitted 154 patients of COVID-19 with a positive culture, 13 patients (8.4%) displayed features of antimicrobial resistance. Isolates were drawn from various sampling sites of the body where 173 cultures demonstrated bacterial colonization, 15 (8.6%) of those cultures demonstrated resistance to antibiotics. These 15 samples were extracted from various sites- throat swab (7 samples; 46.7%), sputum (3 samples; 20.0%), urine (3 samples; 20.0%), rectal swab (2 samples; 13.3%). The pathogens most commonly isolated were: Streptococcus pneumoniae (comprised 46.7% burden of all resistant bacteria), Proteus mirabilis (20.0 %), Klebsiella pneumoniae (13.3%), Escherichia coli (6.7%), Citrobacter freundii (6.7%), Pseudomonas aeruginosa (6.7%). As per the number of antibiotic included in our antibiogram Streptococcus pneumoniae displayed a moderate to severe resistance to 4 out of 6 antibiotics (66.7%), Proteus mirabilis – 3/5 antibiotics (60.0%), Klebsiella pneumoniae – 5/7 antibiotics (71.4%), Escherichia

coli – 4/6 antibiotics (66.7%), Citrobacter freundii – 3/5 antibiotics (60.0%), Pseudomonas aeruginosa – 4/6 antibiotics (66.7%), respectively.

**Conclusions.** The unnecessary and non-judicious use of antimicrobials in patients with COVID -19 infection regardless of the strains, consequently leads to increasing antimicrobial resistance, and associated adverse effects on the host microbiome as well.

**ЛИТЕРАТУРА**

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# ASSOCIATION OF SERUM ESTROGEN AND MELATONIN LEVELS WITH BONE MINERAL DENSITY OF POST-MENOPAUSAL WOMEN – A CASE-CONTROL STUDY

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**Relevance.** Bone homeostasis is significantly impacted by multiple factors. It can be heredity, hormonal status, age, and various environmental factors that exert modulating effects on bone.[1] For post-menopausal women – Estrogen is a major contributor to age-related bone remodeling. Apart from Estrogen, Melatonin also plays a role in the remodeling of the skeletal structure by its influence on Bone Mineral Density. [2]

**Object.** To establish an association and correlation of the effects of Estrogen and Melatonin on bone mineral density.

**Research methods.** The participants of the study were screened at camps organized and coordinated by an NGO, an outpatient department of Dr. B.R. Ambedkar medical college and hospital, and M. R. Ambedkar dental college & hospital, Bangalore, Karnataka. The sample collection was carried out from February 2020 to December 2021. Intravenous blood was drawn for assessment of serum Estrogen & Melatonin levels and Bone Mineral Density (BMD) was measured by the use of a portable Ultrasound Bone Densitometer Testing Machine. All samples were collected in regulated and supervised conditions. Control group – 24 subjects had Normal Bone Mineral Density (BMD). Study Group (Referred to as Osteopenic Group)- 24 subjects had Osteopenia.

**Results and discussion.** The relationship was assessed using a regression model. Simple linear regression between BMD vs Serum Estrogen (Control and Osteopenic group); BMD vs Serum Melatonin (Control and Osteopenic) and Multiple