Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

PS07.05 (137)

Microflora in patients with community-acquired pneumonia and hospital environment in Blagoveshchensk during pandemic

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Purpose: An increase of community-acquired pneumonia (CAP) incidence has been detected during COVID-19 pandemic. Aim: to conduct analysis of bacterial microflora isolated from patients suffering from CAP and hospital environment in hospitals.

Methods & Materials: Bacteriological survey of sputum obtained from 210 hospitalized patients with CAP was conducted from December 2020 - March 2021 in the Blagoveshchensk city. A simultaneous sanitary-bacteriological control of hospital environment was performed (210 environment samples and 24 air samples). The research was conducted during 12 weeks (6 cycles, one cycle lasted two weeks). Bacteriological assessment was performed via classical method. Identification of isolated pathogens and evaluation of drug-resistant strains were performed with bacteriological analyzer "Multiscan".

Results: Examination of sputum that was obtained from 151 patients with CAP revealed 43 isolates and 8 bacterial species in 32 patients (21.2%). *Candida spp.* fungi (51.16±7.62%) and Gramm-positive microflora without drug-resistant strains (39.53±7.46%) were prevailing in the structure of detected isolates Gramm-negative enterobacteria were presented by one species of *Klebsiella pneumoniae* with multiple drug-resistance – ESBL (4.65±3.21%) and non-fermenting Gramm-negative bacteria – one species of *Pseudomonas aeruginosa* (2.33±2.30%). Evaluation of 210 environmental samples showed bacterial microflora in 49 samples (23.3% cases) that was comparable to frequency detection of bacterial pathogens from patients (21.2%). Microflora identified from environment was presented by 12 pathogenic species including Gramm-positive microflora (*S. aureus, S. epidermidis, S. hominis, E.faecalis, E. Faecium)* – 55.0%, Gramm-negative enterobacteria (*K. pneumoniae, E. coli, E.agglomerans, E. cloacae, C. freundii*) – 38.8%, non-fermenting Gramm-negative bacteria (*A. baumannii, A. lwoffii*) – 6.1%. Should be noted that during first three cycles bacterial contamination was detected in 19 out of 90 samples (21.1%) including 3 cases with multiple drug-resistance (3.3%). During following three cycles, bacterial contamination was revealed in 25.0% of samples (30 out of 120 samples) including 13 samples that had multiple drug-resistant bacteria (10.8%). Evaluation of 24 air samples showed no evidence of microbial contamination.

Conclusion: Dynamic surveillance revealed wide circulation of bacterial pathogens in the hospital as well as build up of epidemiologically significant pathogen strains in hospital environment during observation period. These findings indicate considerable risk of nosocomial infections formation among patients.

https://doi.org/10.1016/j.ijid.2021.12.122

PS07.06 (441)

Post-vaccination COVID-19 among Healthcare workers in a Tertiary Care Hospital, Malaysia

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Purpose: To describe the sociodemographic, comorbidities, indication of RT-PCR testing, number of doses of vaccine received, COVID-19 category among the post-vaccination healthcare workers.

Methods & Materials: A retrospective secondary data analysis was conducted at University of Malaya Medical Centre (UMMC), a tertiary referral and teaching hospital with more than 6000 HCWs located in Kuala Lumpur, Malaysia. Immunisation Programme at UMMC started on 1st March 2021, prioritising medical and non-medical frontline staff. All HCWs were included in the study if they have received either one or completed both doses of BNT162b2 (Pfizer-BioNTech) vaccine and was subsequently inflicted with COVID-19 between 1st March until 31st May 2021. HCW were excluded whose gestation was not between 14-33 weeks at the time of the first dose and individuals who had a history of severe anaphylaxis reaction.

Results: A total of 39 HCWs tested positive for SARS CoV-2 through RT-PCR. 6(15.4%) of them tested positive after their first dose while 33 (84.6%) staff were confirmed to be infected after receiving the second dose. For the job category, 21(53.8%) nurses, 7(18%) physicians, 6 attendants (15.4%) and 5(12.8%) supporting staff were infected. 21 were indicated for testing because of close contact with positive SARS CoV-2 patients, whether they were symptomatic or not during the time of testing. The balance of the HCW were tested because they presented with symptoms ranging from mild flu and sore throat to cough and fever. 11 of the HCW (28.2 %) have underlying comorbidity declared prior to vaccination and the rest did not declare any previous underlying medical illness. 33.3%(n=13) of the HCW tested positive were in category 1 and 66.7%(n=26) in category 2. Both categories did not require any hospital admission and they were closed monitoring throughout the maximum of 10 days for isolation at home. They were only admitted if unable to isolate themselves at home.

Conclusion: Well-organized surveillance system is essential for early detection of infected HCW. COVID-19 vaccination among HCW did not only prevent them from getting seriously ill, but also reduced the need for ICU admission and eventually reduced the burden of the disease in the country.

https://doi.org/10.1016/j.ijid.2021.12.123

PS07.07 (171)

Analysis of the influence of age and location of contacts on the frequency of transmission of SARS-CoV2 in society

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