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Letter to the Editor

Potential threat and possible global spread of the novel SARS-CoV-2 Omicron subvariants including XBB.1.16 during the Indian Premier League 2023: strict implementation of traveller guidelines suggested

Dear Editor

Recent threat of multiple highly infectious Omicron subvariants globally has posed enormous healthcare challenge and has infused a state of fright among the general public. Among them, the most recent one XBB 1.16 subvariant is viewed as a more potential danger due to its high contagiousness and rapid spread. This hybrid lineage is highly transmissible with high infectivity. However, its dominance in coming days is uncertain. Its rapid spread does not necessarily mean that it may dominate. It is known that Omicron variant has high transmission rate and the subvariants are capable of overcoming immunity from prior infections and vaccinations. Mutations are the means of evading immunity. Both XBB 1.15 and XBB 1.16 have descended from the recombinant ancestor XBB variant. That XBB.1.6 is more deadly than its other Omicron counterparts is too early to deduce. XBB.1.5 has a rare mutation F486P located in its RBD that capacitates the virus to attach to cells giving an edge over other previous strains. XBB.1.5 is a XBB sublineage with additional mutated S486P spike at RBD that might boost the ability of a subvariant to evade body immunity (https://www.ecdc.europa.eu/en/news-events /update-sars-cov-2-variants-ecdc-assessment-xbb15-sub-lineage). As two nucleotides substitution in the same codon to alter phenylalanine to proline was required, the mutation possibly was rarely encountered during the COVID-19 pandemic as it peaked. Possibly due to its growth advantage and immune escape traits, the WHO has announced XBB.1.16 as a variant of interest (VOI) [1]. As per initial reports, XBB.1.16 has greater effective reproductive number as compared to XBB.1 and XBB.1.5 that leads to quicker transmission. XBB.1.16 has two S substitutions, E180V (NTD) and T478R (RBD). Both mutations contribute significantly towards its infectivity [2].

Many Indian provinces are experiencing a rise in COVID-19 cases, possibly be due to the new variant XBB.1.16 (nicknamed as Arcturus) which replaces the earlier dominant variants fast. As per GISAID (Global Initiative on Sharing All Influenza Data), the INSACOG (Indian SARS-CoV-2 Genomics Consortium) discovered at least 344 sequences in Indian XBB.1.16 strain and has submitted 49% of the total XBB.1.16 submitted sequences. XBB.1.16 exhibits mutations in the non-spike region (ORF9b mutations) that possibly facilitates its efficient immunity evasion. This sub-variant has been detected in many countries including the US, Australia and the UK. Huge surge of cases are observed particularly in the South-East and Eastern Mediterranean regions. Almost similar to the Omicron variant, the usual symptoms that this novel subvariant exhibits are high fever, severe headache, sore throat, cough, body pain, cold and abdominal discomfiture with no loss of smell or taste. However, it may cause itchy conjunctivitis. Most reported cases had mild to moderate symptoms, and home isolation and treatment were enough for disease management. A sharp rise in COVID-19 cases among the children

below the age of 12 years has been noticed. Although it is too early to deduce conclusion on this, there is a need to be vigilant. Comorbidities like age, cardiac conditions, diabetes, chronic kidney disease, and previous pulmonary issues like asthma and tuberculosis increase the risk. The fact that India has reported poor booster dose coverage, these highrisk individuals may be vigilant and take precautions like regular handwashing, respiratory hygiene, proper ventilation at homes and work-place and masking in the crowd.

The 2023 Indian Premier League (IPL), a cricket carnival of India with a global reach, was flagged off recently on the 31st of March and continues now with the participating players from across the globe. Matches are being played in several metro cities across the country, many of which are densely populated. As the game is quite popular in India, millions of cricket fans throng the stadia. In the face of multiple public health threats encountered currently, this gala global sports event scheduled between 31 March and 28 May '23 calls for extra precautionary measures. Such mass gathering events could prove to be risky importing infections amid the public health emergencies like the COVID-19 pandemic (still round the corner) and monkeypox and others flaring up every now and then [3]. The 'new normal' scenario in the ongoing highly-transmissible pandemic despises that mass gatherings could potentially pose serious health issues facilitating disease transmission and spread. The risks of winter flu, hepatitis A and B, diarrhoea and measles as transmissible diseases, as also multidrug resistant (MDR) bacteria, are high in dense floating population [4], especially amid the rising cases of XBB.1.6 in India after BF.7 and XBB.1.5. Thus, the 2023 Indian Premier League (IPL) could become a possible superspreader through the fans, spectators and sports enthusiasts.

As the currently available vaccines for the emerging sub-variants are allegedly inefficient, fans could abide by COVID-appropriate behaviour including face-masking at the tournament venue and elsewhere. Therapeutics seems to protect against severe symptoms, hospitalisation and lethal situation. Unpredictable surge due to the COVID-19 'variant soup' with a mixture of recently emerging subvariants is frightful [5]. It is high time to promote COVID-19 booster vaccination for enhanced protection against SARS-CoV-2 possibly including its variants and subvariants. The need to develop new more efficient vaccines and monoclonal antibodies (mAbs) is urgently felt. Strict implementation of traveller guidelines in a non-discriminatory manner is essential. Genomic surveillance targeted at the travellers from other countries may be useful. Basic COVID-appropriate measures like face-masking, hand-sanitising and social distancing to the extent practically possible, measures like testing and monitoring, and the monitoring and surveillance of urban wastewater handling systems as early warning tool are recommended to contain health emergencies early.

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Declaration of competing interest

There are no conflicts to declare.

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