

Monkeypox virus among seafarers

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We would like to evaluate the article “Monkeypox virus among seafarers is not to be neglected” in which Ogunkola et al. [1] discussed the new problem of emerging monkeypox disease in seafarers. In general, monkeypox infection poses a significant risk and the virus causing the disease can easily spread between people in a suitable environment. This fact is well explained in the article as well as the fact that seafarers are more prone to the infection. The distinction between infectious disease outbreaks and emerging infectious diseases is fundamental with respect to biomedicine and public health. The infection suffered by seafarers follows the basic biomedical principles of infectious disease. To control the situation, it is necessary to understand the disease epidemiology and pathophysiology. In a nutshell, if an unknown but potentially infectious condition emerges, it must be confirmed. This basic strategy is based on the epidemiological theory. First and foremost, any potential interactions between the host (patient), agent, and the environment must be evaluated. If the criteria for epidemiological triad are fulfilled, the infection problem can be confirmed. What matters most from the epidemiological perspective is the fact of identifying the problem. After confirming that an infection exists, the next stage is to provide information about the infectious agent, path of disease transmission, susceptible host, and the extent of infection. This applies to all populations and all environments? Seafaring, like other activities, carries the risk of contracting an infectious disease; therefore, it is prudent to learn the fundamental concepts of the medical epidemiology, pathophysiology, and pathobiological processes of infection.

The epidemiological triad can provide a good explanation for the spread of infections among seafarers. The most important component of the epidemiological triad remains the agent, i.e. the pathogen. Pathogens may be present on board the ship as they could be easily transferred from land onto a ship. The pathogens could be introduced into

the ship by a human, animal, or insect vector. The pathogen can easily circulate throughout the entire ship as well as within the confined spaces of the vessel. The pathogenic microorganisms can also be found in seawater [2]. In the ship’s environment, the virus can initiate disease pathogenesis. The host is primarily the sailor. Seamen are generally strong men, which may indicate that they have a healthy immune system. However, if a pathogen is particularly virulent, it will be able to replicate itself regardless of the health condition of the host. As previously stated, because of limited space on board a ship it is easy for pathogens and hosts to interact. In addition, a maritime journey typically lasts long enough to allow for the spread and development of infections. Limited space and poor sanitation increase the risk of contamination, and the limitations in waste disposal may promote pathogen growth. As a result, sanitation management on board is critical [3]. It is possible that the introduction of the ship disinfection procedure will be necessary. Bacteria, viruses, fungi, and parasites excreted by animals can infect surfaces and are protected by organic materials [3]. Cleaning is an important step in the sanitizing process, and if done correctly, it can remove up to 90% of pathogens [3].

Emerging infectious diseases are defined as novel infectious diseases that have recently appeared in a community or infections which existed in the past but are rapidly expanding in frequency or geographic reach. An infectious disease that is either newly emerging or re-emerging is considered to be an emerging infection. Monkeypox is an illustration of a re-emerging infection, while coronavirus disease 2019 (COVID-19) is a good example of an emerging infectious illness. In 2022, monkeypox became a worldwide health issue. A patient infected with monkeypox typically presents with a fever and disseminated vesicular skin lesions. There are currently no reports available of monkeypox outbreaks on a ship. However, the COVID-19 lesson has

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drawn the attention of maritime medical teams to disease prevention measures are. A thorough screening before boarding the ship is a must.

With regard to maritime activity specifically, there is currently a lack of information on the monkeypox host, agent, and environment. It may not always be easy to diagnose the condition. It is possible that skin lesions will be found in uncommon locations or that the clinical picture will be atypical, or both [4]. A molecular diagnostic test, which is rarely done on board, is typically needed for the correct diagnosis. Additionally, maintaining good sanitation is a crucial component of disease prevention. However, it can be difficult to maintain appropriate sanitation on board [5]. Further research on various clinical presentations of monkeypox in seafarers, the progression of the disease and the metabolism of seafarers under maritime conditions, as well as various treatment approaches that are employed to manage the disease are all of interest in this respect. In general, seamen are as susceptible to infection as any population. In this regard, we must all continue our research into the various clinical issues and illness presentations in seafarers, as well as their progression, responses

of the seafarers' metabolism to the environment of the sea and the ship, and available therapeutic options.

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