cardiovascular diseases, chronic respiratory illnesses, obesity, joint inflammation, osteoporosis, autoimmune diseases, thyroid diseases, cancer, and other diseases). Participants reported receiving at least 1 dose of vaccine were 5 (3.8 %), 2 doses 89 (66.9 %) and 3 doses were 39 (29.9 %). 72 (54.1 %) participants were non healthcare workers and 61 (45.9 %) participants were health care workers.

Most of the participant's received brand name is Sinopharm (48.1 %) and sputnik v (21.8 %) AstraZeneca/ Oxford (18%) Pfizer-Biotech was (9 %) and Covaxin (2.3 %) Moderna (0.8 %).

The most common vaccine adverse effects were fatigue (49.2 %), muscle pain (40 %), headache (37.5 %), chills 18.9 %, and redness/swelling at the injection site (50.8 %), joint pain (27.5 %), and fever (42.5 %) decreased sleep quality (18.3 %).

Sweating for no reason (9 %) Nausea (7.4 %), abdominal pain (5.8 %) diarrhea (7.4 %).

Outcome of severe or very severe adverse effects (compared with no adverse effects, very mild, mild, or moderate), the strongest factor associated with severe or very severe adverse effects was vaccine 3rd dose.

In this real-world digital cohort of 133 people who reported receiving COVID-19 vaccination, serious adverse effects, such as anaphylaxis or allergy, were rare. Adverse effects were more common after the full vaccination dose, and in participants with younger age, female sex, prior COVID-19, asthma, and anemia were associated with lower odds of reporting adverse effects.

This study has limitations some groups, such as men, older adults, and people belonging to minorities' racial and ethnic groups, rural residents and pregnant women.

Given the online nature of the study, not all participants responded to all surveys.

Conclusion

In this real-world cohort, serious COVID-19 vaccine adverse effects were rare, and overall adverse effects were similar to current published reports.

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DENGUE FEVER IN SRI LANKA

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Introduction

Living in a tropical country like Sri Lanka makes it's citizens prone to dengue fever, which can be almost debilitating and even life threatening if not attended immediately. Dengue fever is an infection caused by dengue virus, of which there are four types. Though not exactly the same, they're related to each other. These viruses are spread by mosquitoes, causing high fever and severe body aches. Although it's a fever caused by a virus it is still very different from a simple viral fever, as it is known to cause major problems and even death. An ordinary viral fever

usually doesn't cause severe problems to patients other than a few days of fever and body aches. Dengue causes severe complications called Dengue leakage syndrome and Dengue haemorrhagic syndrome. These complications can cause very low blood pressure and bleeding, often resulting in many deaths amongst teenagers in Sri Lanka.

Objective

To study a dengue burden in Sri Lanka.

Material and methods of the research

Analysis and review current medical data and publications using statistical reports about the incidence and death rate of dengue in Sri Lanka.

The result of the research and their discussion

Transmission of the Dengue virus is caused by the female mosquitoes of Aedes Aegypti and Aedes albopictus. Aedes Aegypti is the major vector of Dengue Illness that caused epidemics, where as Aedes albopictus may cause epidemics when its density is high.

Dengue is one of the leading vector-borne diseases in Sri Lanka and the first case of dengue was confirmed in 1962 by laboratory tests. The first dengue epidemic was reported in 1965–1966, with only a few dengue haemorrhagic patients among them. According to research by the Medical Research Institute, the spread of dengue continued throughout the 1970s and 1980s, with epidemics occurring over a period of time. Severe dengue cases such as dengue haemorrhagic fever and dengue shock have been reported during this period. It has also been found that 14–24 % of patients treated for viral conditions during the period 1980–1985 were infected with the dengue virus and that all four groups of viruses were prevalent in Sri Lanka during this period. It has also been identified that dengue 2 and dengue 3 viruses were present in a greater number of patients.

Although the incidence of dengue increased 20-fold from the year 2000 to 2012 and a further 3-fold from 2012 to 2019, this increase is not reflected in a similar increase in the age-stratified seropositivity rates for dengue. For instance, the annual seroconversion rates were 0.76 % in 2013 and 0.91 % in 2017. The annual seroconversion rates in the 6 to 17 age group were 1.5 % per year in 2003, 3.9 % in 2013, and 4.1 % in 2017. In addition, although a 13-fold increase in dengue was seen in those who were <19 years of age, a 52.4-fold increase was seen in the 40- to 59-year age group. The case fatality rates (CFRs) have similarly changed, with 61.8% of deaths occurring in those <19 years of age in the year 2000, while in 2012 to 2018, the highest CFR were seen in those who were aged 20 to 39 years. Although there has been a marked increase in the number of cases, the vector densities did not change during a 4-year period. The proportion of adult individuals experiencing a secondary dengue infection has also remained between 65% and 75% between the years 2004 and 2018.

The first outbreak of dengue haemorrhagic fever and dengue shock was reported in 1989–1990 due to the dengue 3 virus group. It is speculated that this is the first time in many years that the dengue 3 virus group has been circulating in Sri Lanka due to a genetic mutation in the dengue 3 virus group. Since then, there has been a gradual increase in the number of patients and epidemics of severe dengue haemorrhagic and traumatic events in Sri Lanka. Under these circumstances, in 1996, dengue was included in the list of Mandatory diseases.

The dengue virus tends to spread throughout the year in many parts of the island, especially in the most urbanized and densely populated areas. Most cases are reported during the mid-year (May to July) southwest monsoon, and late (October to January) northeast monsoon. Dengue fever outbreaks have been documented on every continent except Antarctica. Dengue-like disease was first described clinically in Thailand from 1950 and in Philippines from 1953. For more than 40 years, countries endemic for Dengue have reported cases and deaths to the respective World Health Organization Regional officers.

Dengue thrives in urban settings that support large populations of the mosquito vector and the human host. Dengue viruses, transmitted by infected Aedes-mosquitoes, is considered to be the most important mosquito-borne viral disease affecting humans today.

World Health Organization estimates that dengue puts at risk the health of more than 2.5 billion people in the world (WHO 2000). Others estimate global burden as 3.5 billion people which is more than half the world population. It is also thought that as many as 1 in every 100 people are infected with a dengue virus each singe year. Based on statistical modelling methods it is estimated that between 50 million (WHO 2000) and 500 million people get infected with a dengue virus each year in over 100 countries. Of these infections between 500,000 cases (WHO 2000) to 2 million (Beatty 2010) DHF cases are estimated annually. It is also estimated that around 21,000 deaths are likely be occurring due to the server form of the disease annually.

Dengue is endemic in Africa, the Americas, the Eastern Mediterranean, the Western Pacific and in SouthEast Asia. The WHO South-East Asia (SEA) Region together with Western Pacific Region is responsible for nearly 75 % of the global disease burden (WHO 2010).

According to the WHO countries in the South-East Asia Region are stratified into four categories based on number of criteria; Category I is a) where dengue has become a major public health problem with epidemics caused by multiple serotypes b) where there is high morbidity and mortality in children, c) where cyclical epidemics occur in urban centers, d) where the disease is spreading to rural areas and e) where multiple serotypes are co circulating — at present five countries in this group include Indonesia, Thailand, Myanmar, Sri Lanka and Timor-Leste. Category II is a) where cyclical epidemics are becoming more frequent, b) Multiple serotypes circulating c) Expanding geographically within the countries — at present three countries in this group include — Bangladesh, India and Maldives. Category III is where endemicity is uncertain with Bhutan and Nepal included in this category both reporting outbreaks in 2004 and 2006 respectively. Category IV is DPR Korea where there is no evidence of endemic established.

Conclusion

Dengue is becoming a major health problem which is both global and local. Millions of people living in tropical and subtropical parts of the world are infected by one or more of the four serotypes of dengue viruses each year. Several hundred thousand of these infections, especially among children, progress to a life threatening disease known as dengue haemorrhagic fever.

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THE PREVALENCE OF HEPATITIS B SEROLOGICAL AND MOLECULAR MARKERS AMONG DENTAL CLINICS PATIENTS, ST. PETERSBURG

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Introduction

Dental patients are at increased risk for healthcare-associated infections, including hepatitis B. Modern studies have shown the possibility of transmission of hepatitis B virus (HBV) through dental instruments [1], which, together with data on a low infectious dose of HBV [2], is of particular interest. Despite widespread vaccination, chronic hepatitis B remains a major public health problem with high morbidity and mortality rates. In clinical laboratory diagnostics, more and more attention is now being paid to the HBsAg-negative form of the course of the disease, which is characterized by the preservation of the oncogenic properties of the virus with subsequent disability and infectivity. Timely detection of cases of latent hepatitis B becomes a priority when using invasive methods in medicine, for example, for patients in hemodialysis centers, dental clinics, donors of blood and / or its components, since it prevents the spread of HBV inside medical institutions, both among patients and among medical personnel.

Purpose

To assess the prevalence of serological and molecular markers in a group of patients in St. Petersburg dental clinics.

Material and methods of research

The study analyzed 122 blood plasma samples from patients in dental clinics in St. Petersburg. To assess the prevalence of serological markers of hepatitis B (HBsAg, anti-HBs IgG, anti-HBcore IgG), the ELISA method was used (test systems of NPO Diagnostic Systems LLC in accordance with the manufacturer's recommendations). The samples were analyzed using molecular biology techniques (real-time PCR with hybridization-fluorescence detection using commercial test systems and a previously developed method for detecting HBV DNA at low viral load based on amplification with nested primers and visualization by electrophoretic detection [3].

Research results and discussion

The analyzed group is dominated by female patients — 78,7 %. The age of patients varies from 24 to 94 years.

The following serological markers were identified: HBs IgG+ — 25.4 %, anti-HBCore Ig G — 18,9 %. HBsAg-positive cases were not found. Among them, 11,7 % of patients show a combination of anti-HBCore Ig G with anti-HBs IgG. This indicates that the patient's body has previously been in contact with the virus. HBsAg-positive samples were not identified. Quite low levels of vaccine antibodies in the