3. Прямое цитопатическое действие на другие органы и ткани. Доказана возможность репликации вируса в некоторых тканях нелимфоидного происхождения (эпителий слизистой оболочки рта и слюнных желез) [5].

Выводы

Полученные результаты анализа историй болезни пациентов и данных литературных источников указывают на то, что вирус гепатита С не только оказывает прямое цитопатическое влияние на клетки печени, но и вызывает множественные системные нарушения во всем организме. Наиболее часто из них встречаются такие внепеченочные проявления, как смешанная КГЕ, олиго- и полиартриты, мезангиокапиллярный гломерулонефрит, тяжелая эндотелиальная дисфункция, невропатия и изменения со стороны эндокринной системы. Нередко данные симптомы предшествуют признакам поражения печени, потому при диагностике подобных патологий следует иметь в виду вероятность наличия у пациента ХГВС.

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TUBERCULOSIS IN INDIA. CHALLENGES AND OPPORTUNITIES

Introduction

Tuberculosis (TB) is an ancient human disease caused by *Mycobacterium tuberculosis* which mainly affects the lungs, making pulmonary disease the most common presentation (K Zaman, 2010). In the past few decades, there has been a concerted global effort to eradicate TB. These efforts had yielded some positive dividends especially since 2000 when the World Health Organization (WHO, 2017) estimated that the global incidence rate for tuberculosis has fallen by 1.5 % every year. Furthermore, mortality arising from tuberculosis has significantly and steadily declined. The World Health Organization (WHO, 2016) reports a 22 % drop in global TB mortality from 2000 through 2015.

Despite the gains in tuberculosis control and the decline in both new cases and mortality, TB still accounts for a huge burden of morbidity and mortality worldwide. The bulk of the global burden of new infection and tuberculosis death is borne by developing countries with 6

countries, India, Indonesia, China, Nigeria, Pakistan, and South Africa, accounting for 60 % of TB death in 2015, (WHO, 2017).

Tuberculosis remains a significant cause of both illness and death in developed countries especially among individuals with a suppressed immune system. People with HIV are particularly vulnerable to death due to tuberculosis. Tuberculosis accounted for 35% of global mortality in individuals with HIV/AIDS in 2015. (W.H.O, 2017). Children are also vulnerable, and tuberculosis was responsible for one million illnesses in children in 2015 according to the WHO [1].

There are two types of tests used to detect tuberculosis bacteria in the body: a tuberculosis skin test (TST) and tuberculosis blood tests.

Skin testing for tuberculin - Mantoux test (skin testing with PPD). The Mantoux reaction after injection of a dose of PPD (purified protein derivative) is a traditional screening test for susceptibility to tuberculosis. The result is interpreted taking into account the overall risk of exposure to the patient

Interferon Release Assays (IGRA, Quantiferon assays). This is a screening test for tuberculosis, which is more specific and as sensitive as the Mantoux test. This test determines the level of inflammatory cytokines, especially gamma interferon [2].

Objectives

To study concerns of *Tuberculosis* in India. To know the causes, statistic and prevention.

Materials and research methods

The analysis and generalization of modern medical scientific literature on this topic.

The results of the research and their discussion

M. tuberculosis causes tuberculosis. *M. tuberculosis* is an acid-, alcohol- and alkali-fast bacteria. It is part of a group of organisms classified as the *M. tuberculosis complex.* Other members of this group are *Mycobacterium africanum, Mycobacterium bovis, M. avium* and *Mycobacterium microti*. *M. bovis* (bovine type) causes the disease in about 5% of cases. *M. africanum* causes the disease in 3 % of cases, in South Africa – much more often. In rare cases, tuberculosis in humans is caused by *M. microti* (mouse type) and *M. avium* (avian type, causing infection in people with immunodeficiency) [3].

Tuberculosis is one of the deadliest infectious diseases in the world, and India has contributed the most to the growing global burden of this disease. Tuberculosis (TB) is much more prevalent in India than previously thought, according to the results of a national survey conducted by the Government of the Union and published on March 24, 2021 — World Tuberculosis Day. The prevalence of TB is 312 per 100,000 population, the National TB Prevalence Survey of India 2019–2021 found. The World Health Organisation had estimated the incidence of TB to be 188 per 100,000 population in 2020. Disease notifications of people newly diagnosed with TB in India rose from 1.2 million to 2.2 million between 2013 and 2019, an increase of 74 % [4].

While annual reports talk about the incidence of TB cases in the country – the total number of cases that are reported, the survey estimates what could be the true prevalence of the infectious disease in the country because a lot of patients are "missing". According to the report, Delhi was estimated to have the highest prevalence of TB at 747 per 100,000 population while Gujarat had the lowest (137).

While India accounts for 26 % of TB cases in the world, the TB notifications during the period January – June 2020 in India fell by 25 % compared to the same period in 2019. The TB notifications in India in February 2020 increased compared with January but then reduced sharply in April to reach less than 40% of the January figure before increasing to reach about 75 % of January figure in the month of June. However, compared with Indonesia, Philippines and South Africa, the dip in TB notifications has not been very sharp in India and the recovery after the dip has been more in India than the other three countries [5].

In India, notifications of people newly diagnosed with TB increased 74% from 1.2 million to 2.2 million between 2013 and 2019. Despite the increase in notifications, there is still a gap in the number of people newly diagnosed and reported in the world and the estimated number of people who would have developed TB in 2019. In the case of India, this gap accounts for 17 %, the WHO report says. This gap is due to a combination of underreporting of people diagnosed with TB and under diagnosis (if people with TB cannot access health care or are not diagnosed when they do) [6].

The national prevalence to notification (P:N) ratio was 2.84. In other words, for every notified case, the actual prevalent cases were 2.84. Chhattisgarh (5.30) had the highest P:N ratio, followed by Bihar (4.15), Karnataka (4.08), Northeast states (3.74), Tamil Nadu (3.67) and Kerala (3.33).

The average annual percent change (AAPC) along with 95 % Confidence Interval (CI) in incidence and mortality were derived by joinpoint regression analysis; the net age, period, and cohort effects on the incidence and mortality rates were estimated by using Age–Period–Cohort model. During the study period, age-standardized incidence and mortality rates of TB in India declines from 390.22 to 223.01 and from 121.72 to 36.11 per 100,000 population respectively. The Joinpoint regression analysis showed a significant decreasing pattern in incidence rates in India between 1990 and 2019 for both male and female; but larger decline was observed in case of females (AAPC: -2.21; 95% CI: -2.29 to -2.12; $p < 0.001$) as compared to males (AAPC: -1.63; 95 % CI: -1.71 to -1.54; $p < 0.001$). Similar pattern was observed for mortality where the declining trend was sharper for females (AAPC: -4.35; 95 % CI: -5.12 to -3.57; $p < 0.001$) as compared to males (AAPC: -3.88; 95 % CI: -4.63 to -3.11; $p < 0.001$). For age-specific rates, incidence and mortality rates of TB decreased for both male and female across all ages during this period. The age effect showed that both incidence and mortality significantly increased with advancing age; period effect showed that both incidence and mortality decreased with advancing time period; cohort effect on TB incidence and mortality also decreased from earlier birth cohorts to more recent birth cohorts.

The protective efficacy of the Bacille Calmette–Guerin (BCG) vaccine - the only one available against tuberculosis — remains controversial despite its use for over 80 years.[7] Most studies done in western countries suggest that the vaccine does offer protection from the severe, haematogenous forms of the disease such as TBM or miliary tuberculosis. The situation in India is more complex as the problem of exposure to infection is compounded by poor nutritional status, poor living conditions (such as overcrowding) and a heavy infective dose from a household contact. Most studies in Indian children have not examined the interaction between protection due to vaccination and these confounders. Also, there are very few studies on the effect of passage of time on the protective efficacy of BCG in TBM.

In 1992, the Government of India, together with the World Health Organization and Swedish International Development Agency (SIDA), reviewed the national tuberculosis program and concluded that it suffered from managerial weaknesses, inadequate funding, over-reliance on x-ray, non-standard treatment regimens, low rates of treatment completion, and lack of systematic information on treatment outcomes. This program now covers more than 1 billion (1164 million) populations across 632 districts in 35 states and union territories, initiated more than 12.8 million TB patients on treatment, saving an additional 2.3 million lives. All of India is now covered by the Revised National Tuberculosis Control Program (RNTCP). RNTCP making it the second largest such program in the world. Clearly, both good outcomes and high case detection rates are essential [8].

Conclusions

Despite the increase in notifications, there is still a gap in the number of people newly diagnosed and reported in the world and the estimated number of people who would have developed TB. In the case of India, this gap accounts for 17 %. This gap is due to a combination

of underreporting of people diagnosed with TB and under diagnosis (if people with TB cannot access health care or are not diagnosed when they do).

The national prevalence to notification (P:N) ratio was 2.84. In other words, for every notified case, the actual prevalent cases were 2.84.

The Joinpoint regression analysis showed a significant decreasing pattern in incidence rates in India between 1990 and 2019 for both male and female; but larger decline was observed in case of females. Similar pattern was observed for mortality where the declining trend was sharper for females. The age effect showed that both incidence and mortality significantly increased with advancing age.

Most studies from developed countries show a high protective efficacy of BCG vaccine against TBM. In studies from India, the protective efficacy has not been high and the results are conflicting. It has been postulated that other risk factors such as poor nutrition, low standard of living and exposure to a high infective dose of the bacilli from a household contact may overcome the protective effect of BCG in the Indian population. The United Nation has set 2030 as target for TB elimination.

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EPIDEMIOLOGICAL CHARACTERISTICS
OF THE INCIDENCE OF COVID-19 IN SRI LANKA

Introduction

2019 Novel Coronavirus (2019-nCoV) is a virus (more specifically, a coronavirus) identified as the cause of an outbreak of respiratory illness first detected in Wuhan, China. Early on, many of the patients in the outbreak in Wuhan, China reportedly had some link to a large seafood and animal market, suggesting animal-to-person spread. However, a growing number of