

Low-Income Pregnant Patients with Covid-19 in A Public Hospital in Mexico's Metropolitan Area. Diagnostic and Treatment Dilemmas

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Abstract

Objective: It was to evaluate the diagnostic tools and treatments of low-income Covid19 pregnant patients managed in a general hospital of the metropolitan area of Mexico City; **Methods.** The study was a retrospective clinical trial performed by means of the revision of patient's files. Diagnosis of covid-19 was made by means of different strategies. They were clinical symptomatology, rapid antigen test, RT-PCR, X ray evaluation and chest tomography. Were used statistical descriptive tests. **Results:** Mean age of patients was 24.9 ± 3.3 years. In 9.3% of the patients were detected comorbidities. The most common diagnostic tool was the rapid antigen test. Treatment was essentially symptomatic. The most frequent drug employed in the treatment was enoxaparin. Mortality rate 1.3%. **Conclusion:** In this trial, the registered common diagnostic and therapeutic strategies utilized in pregnant patients in a typical hospital of a developing country can be employed as a clinical experience for other health facilities of similar nations.

Keywords: covid-19; pregnancy; pneumonia; anticoagulation; ivermectin; dexamethasone

Introduction

Coronaviruses are infectious for human beings, mammals and birds. Four strains (229E, OC43, NL63, HKU1) cause mild infections in normal people. Two strains, SARS-CoV and MERS-CoV have caused deadly outbreaks; the severe acute respiratory syndrome and the Middle East respiratory syndrome, respectively. New coronavirus, (SARS-CoV2) is the etiologic agent of Covid-19 pandemic. Starting in China, Covid-19 has spread fastest worldwide. Disease is characterized mainly for the presence of respiratory symptoms. However, patients can show extrapulmonary manifestations. Some are trivial as the gastrointestinal symptomatology. However, together with the lung damage; another complication is life threatening, even lethal such as renal and hepatic injury,

myocarditis and thromboembolism. Survivors may have prolonged complications, as the "long Covid" and post-traumatic stress syndrome [1,2].

Physiological changes during pregnancy can predispose to infectious diseases. There is experience with the previous outbreaks of coronaviruses in obstetric patients and since they were considered at greater risk. Pregnant patients can get the illness and develop all stages of covid-19. Initial experience with Covid-19 in pregnancy was reported by Chinese physicians and after worldwide [3].

The Mexican Republic (colloquially Mexico) has world class hospitals available only for wealthy and minority people. Mid income citizens and those with social security may have different access to other kind health

care. However, tens of millions of poor persons are treated by very experienced and skilled health care workers, but with scarcity of technology and medical supplies. The last scenario can be similar to various vast places in Latin American and in other developing countries.

Nowadays, Mexico is in the fourth place of official total deaths for Covid-19, has suffered five waves of the outbreak; mainly affecting Mexico City (the overpopulated capital of country). In this clinical article we are reporting the experience in the treatment of pregnant low-income patients with Covid-19 in a general hospital of the metropolitan area of Mexico City

Materials and Methods

This is a retrospective clinical trial based on the patient's files. Were studied seventy-five hospitalized patients with Covid-19, in the service of obstetrics and gynecology of the Hospital General de Atizapán "Dr Salvador González Herrejon"; a healthy facility localized in the metropolitan area of Mexico City. Since May 2020 to February 2021.

By the characteristics of the hospital, diagnosis of covid-19 was made by means of different strategies. They were clinical symptomatology, rapid antigen test, RT-PCR, X ray evaluation and chest tomography.

Was created a database in a commercial software Exel19® for personal computer. For data analysis were used descriptive and analytical statistical tests (mean \pm standard deviation).

Results

Mean age of patients was 24.9 ± 3.3 years. In 9.3% of the patients were detected comorbidities (Figure 1), the most frequent was gestational diabetes mellitus. Seven patients were teenagers (9.3% of total). Diagnosis of covid 19 was made by means of rapid antigen test in most of the patients (71 of them, 94.6% of total studied). Test was positive in 30 of the 71 patients evaluated, Predictive Positive Value and Sensitivity of 42.2%. Eleven patients were evaluated simultaneously with rapid antigen test and RT-PCR (both tests were positives in them). Forty-three patients were evaluated through X rays or tomography, in seventeen were detected radiographic findings of pneumonia. One patient was diagnosed only by her symptomatology. Treatment strategies were pleomorphic, consisted in the use of oxygen (in all patients as life support) and diverse drugs (Figure 2). Paracetamol for general symptomatology, but the most frequent employed was

the enoxaparin in 24 patients, followed by the empiric utilization of antibiotics. Ivermectin was used in four patients and hydroxychloroquine was employed in one patient. One patient of this clinical trial died of respiratory insufficiency caused by pneumonia; Mortality rate was 1.3%.

Discussion and Recommendations

Pandemic outbreak of Covid-19 takes by surprise and unprepared to all world health systems. Management of the disease was dependent of the infrastructure and financial possibilities of each country. First efforts performed in China were useful for other countries. In that country, apparition of Covid19 did lead to taken emergency measures. Initial actions were similar in countries as Mexico. In this clinical trial the diagnostic strategies were similar to the initial reports in China, but adapted to local conditions. Disease was diagnosed in Mexican patients by means of radiologic examination as the Chinese. However, in this trial some patients were diagnosed using plain X rays in contrast with Chinese women in which tomography was employed in all cases detected radiologically [3].

In Chinese experience polymerase-chain-reaction (PCR) was used for the detection of SARS-CoV2 in all patients. Mexico has a lower rate of detection tests in worldwide and is based on the practice of rapid tests. Lack or success of diagnosis tests application is correlated with the quality of the health services. In developing countries cost of PCR is expensive for the most of citizens and authorities and his application is scarce. In this scenario, lack of PCR test application and the low specificity and sensitivity of rapid tests has impact on the outbreak evolution. Many patients confound Covid-19 with a habitual flu and widespread the disease, increasing the magnitude of the problem (more hospitalizations and fatal cases). Mexico has a high rate of deaths in health personal. Lack of information about the disease and few tests practiced before to assist to a habitual medical appointment is possibly one of the causes of this phenomenon [3,4].

Covid-19 in Mexico have had particular characteristics. Patients have been managed in their homes for general practitioners even empirically by their relatives, obtaining information of websites. Dexamethasone is actually recognized as an effective drug to reduce lethality of Covid-19. In this trial dexamethasone was employed scarcely. The explanation has two items. First in Mexico such drug is purchased without medical prescription. Second, during the acme of outbreak's

waves dexamethasone and other glucocorticoids were very difficult to obtain, even for the health institutions. Hospital that performs this report based its therapeutic effort and management in the use of enoxaparin. Prophylactic administration of this drug was a strategy of the hospital, without the measurement of D-Dimer. This was practiced even in ambulatory patients; because of the saturation of health facilities. There was no shortage of enoxaparin due to this drug is expensive for the vast majority of Mexican Citizens [5,6].

Nowadays vernacular health authorities claim the utility of ivermectin as authorized treatment of Covid-19. It has antiparasitic and antiviral effects. However, scientific information contradicts this therapeutic strategy. Ivermectin can be used with clinical reserve because its doubtful benefit in mildly affected patients. International evidence does not justify its wide utilization. In this report the drug was employed in few cases because of the severity of covid in practically all patients. Nevertheless, it is gathered widely for its empirical utilization. Hydroxychloroquine and chlorine dioxide has been used without success for the management of Covid-19 in Mexico. Chlorine dioxide is an excellent disinfectant, but should not be ingested by humans. Prevention programs must be established to avoid self-medication and consumption of chlorine dioxide, this drug is absorbed quickly across the gastrointestinal tract and is toxic [7,8,9,10,11].

In this report are described the clinical characteristics, diagnosis and therapeutic tools employed in a general hospital for low-income patients. As corresponding to a developing country can be useful for clinicians in similar nations.

As recommendations of authors, firstly to use the authorized covid vaccines as the Centers for Disease Control and Prevention indicate during pregnancy. Also, to inform the population about the hygiene conducts for prevention and existent treatments of the disease, emphasizing in providing reliable information by means of traditional media and social networks. Finally, if it is possible to combat the fake news and disinformation related to covid that are very common in actual times.

Conflicts of Interest

There are no conflicts of interest that influence the objectivity of this clinical paper and its review. There are no commercial associations, either directly or through immediate family, in areas such as expert testimony, consulting, honoraria, stock holdings, equity interest,

ownership, patent-licensing situations or employment that might pose a conflict of interest. Neither do existing conflicts for other reasons, such as personal relationships or academic competition.

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