IQRO JURNALI / 2023
GUVOHNOMA № 060680
E-ISSN : 2181-4341

VOL – 1 ,ISSUE – 2
https://wordlyknowledge.uz/

Sherbekova Diyora

4th year student of Tashkent Medical Academy 1st Treatment faculty

Avascular necrosis bone complication after active COVID -2019 infection

Abstract: Its known that COVID-19 has an adverse effect on various organs and systems of the human body . in the available literature ,there are isolated reports regarding the development of osteonecrosis after transferring infection. These signs illustrate us the role of commonly used hormone therapy in the treatment of infection in the early stages of development . Our article shows clinical observations of four patients with bilateral necrosis of the femoral head joint after treatment . Three patient cure with hormone therapy but one did not receive . Our searches illustrate us that survivors developed at a shorter time compared to necrosis in patient without infection . Two out of four patients had a positive family history . It's a possible that hereditary vascular factors played a basic role in the genesis of osteonecrosis of the femoral head . Further accumulation of evidence is needed to understand the development of osteonecrosis after COVID2019. Its likely that many factors , including ischemic and steroid factors , influence the development of synergistically .

Key words : after COVID -2019 infection, avascular necrosis, osteonecrosis , femoral head necrosis , magnetic resonance imaging .

INTRODUCTION

The new coronavirus disease 2019 (COVID-2019) causes a viral infection, which has already killed more than 5 million people . COVID -2019 include fatigue , shortness of breath , anxiety and depression , increased heart rate, pain in the chest, inability to think or concentrate , sensory disfunction, cardiomyopathy and stroke, as well as muscle and joint pain which may be a manifestation of aseptic bone . According to various information , osteonecrosis is observed in 7-53% patients with severe COVID-2019. This information show us on 41% of patients head developed femoral osteonecrosis within a few months after. As for the pathogenesis of aseptic necrosis after an infection , two main mechanisms are currently being discussed : virus damage to bone vessels and the negative effect of glucocorticoids used in the cure of infection . The search for methods for diagnosing aseptic necrosis after a new coronavirus infection in early stages and risk factors for its development continues . The presented publications discuss the possibility of conservative therapy in preventing the progression of the process , provided that treatment is started at the early stages of aseptic necrosis. The purpose of the review to conclude literature data on the mechanisms of development aseptic necrosis , methods of diagnosis and treatment in the early stages of the disease.

MATERIALS AND METHODS

Clinical observation 1

38 years old man without a somatic and family history suffered a severe from of infection with 75%lung damage . Prior to hospitalization , the patient received20mg dexamethasone for 6 days .During treatment hormone therapy was continued and after discharge from the hospital in order to prevent thrombosis , the patient received 20mg of rivaroxaban per day for 1 month.

Clinical observation 2

42 years old man without family anamnesis and complained pain in the hip joints and also lower back . Conservative therapy was recommended for 4 weeks. During the second examination a pathology of the hip joint was suspected, which was confirmed by MRI: bilateral necrosis of the femoral heads of the ARCO IIC stage.

Clinical observation 3 and 4

We show observations 3 and 4 together are sisters . They had a COVID-2019 the same time , after which both were diagnosed with bilateral osteonecrosis of the femoral heads. Both patients suffered moderate types and hospitalize for 7 days with 30% lung involvement and also they have common history. Inpatient treatment included taking drug favitavir , anticoagulants and dexamethasone in total dose of 85mg. After discharge from the hospital , the patient received 15mg rivaraxoban per day month . Patients 4 with a similar lesion of the lungs on outpatient treatment , which did not included corticosteroids . In patient 3 , 120 days after the onset of the disease ,pain in the hip joints appeared , bilateral osteonecrosis of the femoral heads was diagnosed .

Summary of clinical observations of patients with osteonecrosis of the femoral ahead after COVID -2019

PARAMETRS	Observation			
	1	2	3	4
Age	38	42	45	34
Time of development of necrosis from the onset of COVID 2019	85	90	125	155
The course of COVID 2019	Mild	Moderate	Mild	Mild
Total dose of dexametasone	120/3000	110/800	90/600	-

/prednizalone,mg				
Days severity of necrosis (ARCO) right left	ARCOIIC/ ARCO IIC	ARCOIIC/ ARCOIIC	ARCOIIB/ ARCOIIC	ARCOIIB/ ARCOIIA

RESULTS

In modern conditions ,studies studying the impact of coronavirus infection on the search of human chronic disease and the development of disease extremely relevant. The pathogenesis of steroid –induced osteonecrosis not fully understood, but it is believed that the mechanism of its development involves embolism .Currently ,there are no clear data on the duration of corticosteroids and their dosages , which significantly increase the risk of developing osteonecrosis. For patients 3 and 4 it is reason able to assume that infection accelerated the implementation of a genetic position to vascular disease. Of course ,its premature to draw conclusions regarding the genesis of osteonecrosis after suffering infection. Its likely that many factors ,including steroid and ischemic factors ,have a synergistic effect on the development of the disease.

CONCLUSION

Currently , judging by the available publications , two mechanisms for the development of necrosis after suffering COVID -2019 virus are being discussed : the influence of glucocorticoids used to treat the infection , and the contribution of the COVID-2019 virus itself to bone metabolism disorders. In the later case , the development of osteonecrosis is due to microthrombosis and malnutrition of the bone tissue against the background of direct damage to the vessels by the virus or the development of inflammation of the vascular wall in combination with an increase .

REFERENCES:

1.World Health Organization . A clinical case definition of post COVID -2019 condition by a Delphi consensus . URL: https://www.who.int/publications /i/item/WHO-2019-nCoV-Post_COVID-2019_condition-Clinical_case_defination-2021.1 (Accessed 6th october 2021)

2.Kamal M, Abo Omirah M, Hussein A, Saeed H. Assesment and characterization of post – COVID-2019 manifestations. Int J Clin Pract. 2021;38:101019.doi: 10.1016/j.eclinm.2021.101019

3.Beketova T , Kulikov A, Babak V, Suprun M, Beketova M. Long-term consequences of COVID-2019 among patients with rheumatic diseases. Chest.2021;160(4):A583.doi; 10.1016/j.chest.2021.07.561