



COMPARATIVE CHARACTERISTICS OF THE FREQUENCY OF ACEPTIC NECROSIS OF THE FEMORAL HEAD AFTER COVID-19

Nurulloyev S.O.

Bukhara State Medical Institute

Summary

The recent outbreak of the 2019 coronavirus disease (COVID-19) has turned into a global epidemic. Corticosteroids are widely used in the treatment of severe acute respiratory syndrome (SARS), and the pathological data observed in severe acute respiratory syndrome caused by coronavirus 2 (SARS-CoV-2) are very similar to those observed in severe acute respiratory syndrome. coronavirus (SARS-CoV) infection. However, long-term use of corticosteroids (especially in high doses) is associated with potentially serious side effects, especially with avascular necrosis of the femoral head caused by steroids. Hormones are a double-edged sword. This review is intended to provide health care providers in countries and regions endemic to coronavirus 2019 (COVID-19) with background information, especially regarding the pros and cons of using corticosteroids in the treatment of patients with COVID-19.

Keywords: corticosteroids, coronavirus, acute respiratory syndrome, avascular necrosis, femoral head.

СРАВНИТЕЛЬНАЯ ХАРАКТЕРИСТИКА ЧАСТОТЫ ВСТРЕЧАЕМОСТИ АЦЕПТИЧЕСКОГО НЕКРОЗА ГОЛОВКИ БЕДРЕННОЙ КОСТИ ПОСЛЕ COVID-19

С. О. Нуруллоев.

Бухарский государственный медицинский институт
по имени Абу Али ибн Сина.

Резюме: Недавняя вспышка коронавирусного заболевания 2019 года (COVID-19) превратилась в глобальную эпидемию. Кортикостероиды широко используются при лечении тяжелого острого респираторного синдрома (SARS), и патологические данные, наблюдаемые при тяжелом остром респираторном синдроме, вызванном коронавирусом 2 (SARS-CoV-2), очень похожи на те, которые наблюдаются при тяжелом остром респираторном синдроме. коронавирусная (SARS-CoV) инфекция. Однако длительное применение кортикостероидов (особенно в высоких дозах)





связано с потенциально серьезными побочными эффектами, особенно с аваскулярным некрозом головки бедренной кости, вызванным стероидами. Гормоны - это палка о двух концах Этот обзор призван предоставить поставщикам медицинских услуг в эндемичных по коронавирусу 2019 (COVID-19) странах и регионах справочную информацию, особенно в отношении плюсов и минусов использования кортикостероидов в лечении пациентов с COVID-19

Ключевые слова: кортикостероиды, коронавирус, острый респираторный синдром, аваскулярный некроз, головка бедренного коста.

COVID-19 DAN KEYIN SON SUYAGI BOSHCHASI ASEPTIC NEKROZI UCHRASH DARAJASINING QIYOSIY XARAKTERISTIKASI

Rezyume

2019-yilgi koronavirus kasalligining (COVID-19) yaqinda avj olishi global epidemiyaga aylandi. Kortikosteroidlar og'ir o'tkir respirator sindromni (SARS) davolashda keng qo'llaniladi va og'ir o'tkir respirator sindromli koronavirus 2 (SARS-CoV-2) da kuzatilgan patologik topilmalar og'ir o'tkir respirator sindromda kuzatilganlarga juda o'xshash. koronavirus (SARS-CoV) infeksiyasi. Biroq, kortikosteroidlarni uzoq muddatli qo'llash (ayniqsa, yuqori dozalarda) potentsial jiddiy yon ta'sirga, ayniqsa femur boshining steroid ta'siridan kelib chiqqan avaskulyar nekroziga bog'liq. Gormonlar ikki qirrali qilichdir. Ushbu sharh koronavirus 2019 (COVID-19) endemik mamlakatlari va mintaqalaridagi tibbiyot xodimlariga, ayniqsa, COVID-19 bilan kasallangan bemorlarni davolashda kortikosteroidlardan foydalanishning ijobiy va salbiy tomonlari haqida umumiy ma'lumotni taqdim etishga qaratilgan.

Kalit so'zlar: kortikosteroidlar, koronavirus, o'tkir respirator sindrom, avaskulyar nekroz, son suyagi boshi.

Introduction

Coronaviruses are important human and animal pathogens. In late 2019, a novel coronavirus was identified as the cause of a cluster of pneumonia cases in Wuhan, a city in the Chinese province of Hubei. It quickly spread, leading to an epidemic throughout China, followed by an increase in cases in other countries around the



world. In February 2020, the World Health Organization (WHO) designated the disease COVID-19, which stands for coronavirus disease 2019 [1,3,5]. The virus that causes COVID-19 is designated severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2); it was previously called 2019-nCoV. On January 30, 2020, WHO declared the COVID-19 outbreak a Public Health Emergency of International Concern, and in March 2020 began characterizing it as a pandemic to highlight the seriousness of the situation and urge all countries to take action to detect the infection and prevent the spread. [2,7,11].

Secondary AN is more common than idiopathic AN. The cause of secondary ANFH can be glucocorticoids, alcohol intoxication, radiation or chemotherapy, various coagulopathy (DIC, thrombophilia), immunoinflammatory rheumatic diseases, sickle cell anemia, HIV, hyperlipidemia, liver disease and liver failure, diving and other hyperbaric conditions, pregnancy and injuries, especially those with impaired vascular integrity (fracture of the femoral neck, traumatic hip dislocation)[4,8,11]. Since at COVID-19 in the clinic in patients encountered several etiological causes at once. [6,9,10]. In patients with acute respiratory syndrome caused by coronavirus infection, there are various post-acute complications, and one of them is aseptic necrosis of the femoral head, which requires a more general method of treatment.

Target:

Identification of the incidence of aseptic necrosis of the femoral head after treatment of acute respiratory syndrome caused by coronavirus infection.

Materials and Methods:

In a retrospective and randomized study at the Bukhara Regional Multidisciplinary Medical Center of 201 patients with severe SARS found that the appropriate use of glucocorticoids in patients with severe SARS can significantly reduce mortality and shorten the length of hospital stay.

Research Results:

The study included 201 patients who developed severe acute respiratory syndrome and received corticosteroids. Of the patients, 158 (%) received daily methylprednisolone 500 mg for 3-5 days followed by dexamethasone for 3-4 weeks, 28 (%) received prednisolone 60-80 mg/day for 7-10 days followed by dexamethasone for 3-4 weeks, and the remaining 15 (%) received 18-24 mg of dexamethasone for 7-10 days.





Although pulse therapy with high doses of glucocorticoids has a rapid anti-inflammatory effect, it also increases the neutrophil/lymphocyte ratio and D-dimer levels, increasing the risk of thromboembolism. In newly diagnosed diabetic patients, frequent use of glucocorticoids may exacerbate hyperglycemia. We found that the incidence of bacterial infection (25%/13.1%, $P=0.041$) and the incidence of fungal infection (12.7%/0.7%, $P<0.001$) during hospitalization were significantly higher in the steroid group than in the nonsteroidal treatment group. There have also been reports of glucocorticoid-induced bacterial endocarditis, strongyloid, or amoebic infections that can progress to catastrophic complications in patients with COVID-19 pneumonia.

In a subsequent study, 23.1% (46 of 201) of patients with SARS developed steroid-induced avascular necrosis of the femoral head, which was mainly associated with the administration of high doses of glucocorticoids during SARS treatment. However, most studies ignored the influence of other confounding factors in retrospective analyzes of the relationship between steroids and osteonecrosis of the femoral head. Many factors must be considered, such as hemoglobinopathies.

Looking at the data of retrospective analyzes that the incidence of osteonecrosis was closely related to the duration of treatment in 458 patients, a non-linear relationship was observed between cumulative dose and osteonecrosis. When the total dose of methylprednisolone was less than 5 g, the risk of osteonecrosis remained relatively low. However, as the total dose increased from 5 g to 10 g, the risk of osteonecrosis increased.

In one study, logistic regression analysis showed that there is a correlation between the maximum daily dose of glucocorticoids and the family nurse, suggesting that adequate control of the maximum daily dose is necessary. When patients were treated with methylprednisolone 1 mg/kg, 5 mg/kg, 20 mg/kg and 40 mg/kg; the incidence of osteonecrosis was 0%, 42%, 70% and 96%, respectively. For comparison (5mg/kg/day vs 1mg/kg/day) Only the 5mg/kg/day group was found to develop osteonecrosis. The results showed that prednisone doses greater than 40 mg/day were positively correlated with osteonecrosis, 73 the incidence increased by 3.6% for every 10 mg dose increase.

For the period from September 2020 to March 2021, on the basis of the BOMC Traumatology and Orthopedics Clinic, 26 operations with the tunneling method were performed from these 201 post-covid patients studied. The average age of the operated patients was 42 years. 70% of patients had concomitant pathology: arterial hypertension, diabetes mellitus, fatty hepatosis, peptic ulcer, pancreatitis; 20% of them had previously abused alcohol.



In 85% of cases, the disease was bilateral.

In 70% of patients, there was a decrease in pain syndrome according to VAS from 5 to 3 points (by 40%). A stable radiological and positive clinical result was noted in 12 (46%) cases, no progression of the existing collapse (up to 1 mm) in 6 (23%) cases, progression of the collapse in 8 (31%) cases, of which arthroplasty was performed in 4 cases.

Conclusion

While there is debate about the pros and cons of steroid use, from an orthopedic point of view, it is an undeniable fact that long-term and high doses of steroids lead to ANFH. We therefore urge the prudent use of corticosteroids in the treatment of patients with COVID-19 and do not recommend them as routine treatment. For patients treated with corticosteroids, bisphosphonates, anticoagulants, vasodilators, and traditional Chinese medicine in combination with ESWT, HBOT, and other exercise therapy, treatment options may be considered. We reaffirm the importance of regular screening of high-risk patients, especially those on long-term steroid use. MRI is the best tool for early detection of ADHD, and efforts should be made by clinicians to raise awareness of the prevention of ADHD. A high index of suspicion is necessary for patients who complain of pain in the bones and joints in typical places. Patients with suspected avascular necrosis should be referred to orthopedic physicians in the early stages, and clinicians should try to delay the progression of osteonecrosis to prevent aseptic necrosis from affecting patients' daily lives.

Decompressive operations have a number of advantages: they are less traumatic, are not accompanied by blood loss, do not require high-tech equipment, have a low percentage of complications, and do not impede subsequent arthroplasty.

Bibliography.

1. Centers for Disease Control and Prevention. 2019 Novel coronavirus, Wuhan, China. Information for Healthcare Professionals. <https://www.cdc.gov/coronavirus/2019-nCoV/hcp/index.html> (Accessed on February 14, 2020).
2. European Center for Disease Prevention and Control. Rapid increase of a SARS-CoV-2 variant with multiple spike protein mutations observed in the United Kingdom, December 2020. <https://www.ecdc.europa.eu/sites/default/files/documents/SARS-CoV-2-variant-multiple-spike-protein-mutations-United-Kingdom.pdf> (Accessed on December 21, 2020).





3. European Center for Disease Prevention and Control. Rapid increase of a SARS-CoV-2 variant with multiple spike protein mutations observed in the United Kingdom, December 2020.
<https://www.ecdc.europa.eu/sites/default/files/documents/SARS-CoV-2-variant-multiple-spike-protein-mutations-United-Kingdom.pdf> (Accessed on December 21, 2020).
4. Li B, Deng A, Li K, et al. Viral infection and transmission in a large, well-traced outbreak caused by the SARS-CoV-2 Delta variant. UNPUBLISHED.
<https://www.medrxiv.org/content/10.1101/2021.07.07.21260122v2> (Accessed on September 16, 2021).
5. Nurulloyev SO, Mirzamuradov HH Morphological Changes In Bone Tissue In Chronic Osteomyelitis On The Background Of Application Of Plate Concentrate // The American Journal of Medical Sciences and Pharmaceutical Research (ISSN – 2689-1026) Published: April 30, 2021 | Pages: 160-164
<https://doi.org/10.37547/TAJMSPR/Volume03Issue04-22>
7. Ong SWX, Chiew CJ, Ang LW, et al. Clinical and virological features of SARS-CoV-2 variants of concern: a retrospective cohort study comparing B.1.1.7 (Alpha), B.1.315 (Beta), and B.1.617.2 (Delta). Clin Infect Dis 2021.
8. Sheikh A, McMenamin J, Taylor B, et al. SARS-CoV-2 Delta VOC in Scotland: demographics, risk of hospital admission, and vaccine effectiveness. Lancet 2021; 397:2461.
9. Sulaymanova Gulnoza Tulkindzanovna, Amonov Muhammad Komilovich. Regional Causes Of Iron Deficiency Anemia, Pathogenesis And Use Of Antianemic Drugs. // The American Journal of Medical Sciences and Pharmaceutical Research (ISSN - 2689-1026) Published: April 30, 2021 | Pages: 165-170
<https://doi.org/10.37547/TAJMSPR/Volume 03 Issue 04-22>
10. Twohig KA, Nyberg T, Zaidi A, et al. Hospital admission and emergency care attendance risk for SARS-CoV-2 delta (B.1.617.2) compared with alpha (B.1.1.7) variants of concern: a cohort study. Lancet Infect Dis 2021.
11. World Health Organization. Director-General's remarks at the media briefing on 2019-nCoV on 11 February 2020. <http://www.who.int/dg/speeches/detail/who-director-general-s-remarks-at-the-media-briefing-on-2019-ncov-on-11-february-2020> (Accessed on February 12, 2020).
12. World Health Organization. Novel Coronavirus (2019-nCoV) technical guidance. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance> (Accessed on February 14, 2020).





13. Naimova S. A. Principles of early diagnosis of kidney damage in patients of rheumatoid arthritis and ankylosing spondiloarthritis //British Medical Journal. – 2021. – T. 1. – №. 1.
14. Anvarovna N. S. Features of Kidney Damage at Patients with Ankylosing Spondiloarthritis //Texas Journal of Medical Science. – 2021. – T. 3. – С. 18-22.
15. Boltayev K. J., Naimova S. A. Risk factors of kidney damage at patients with rheumatoid arthritis //WJPR (World Journal of Pharmaceutical Research). – 2019. – T. 8. – №. 13.
16. Болтаев К. Ж., Ахмедова Н. Ш. Характеристика феномена развития полидефицитных состояний при старении //Проблемы биологии и медицины. – 2020. – №. 1. – С. 24-26.
17. Tulkinjanovna S. G., Anvarovich R. A. The influence of deficiency of microelements in children with bronchial hyperreactivity// ACADEMICIA: An International Multidisciplinary Research Journal (ISSN: 2249-7137)–2020. April. - 2020. - T. 10. - No. 4. - S. 846-853.

