

Covid-19 containment measures adopted in bone marrow transplantation service

Medidas de contenção à COVID-19 adotadas em serviço de transplante de medula óssea
Medidas de contención a la COVID-19 adoptadas en el Servicio de Trasplante de Médula Ósea

Jéssica Alline Pereira Rodrigues^I

ORCID: 0000-0001-5157-9698

Alzira Maria Stelmachuk^{II}

ORCID: 0000-0003-0207-5340

Maria Ribeiro Lacerda^I

ORCID: 0000-0002-5035-0434

Cristina Maria Galvão^{III}

ORCID: 0000-0002-4141-7107

^I Universidade Federal do Paraná. Curitiba, Paraná, Brazil.

^{II} Universidade Federal do Paraná, Complexo Hospital de Clínicas.
Curitiba, Paraná, Brazil.

^{III} Universidade de São Paulo. Ribeirão Preto, São Paulo, Brazil.

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Corresponding author:

Jéssica Alline Pereira Rodrigues
E-mail: jessica.rodrigues@hc.ufpr.br



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ABSTRACT

Objective: To describe the experience of nursing, in adopting containment measures, in the care of patients undergoing hematopoietic stem cell transplantation to avoid COVID-19. **Methods:** Experience report. **Results:** Containment measures involve those recommended by major health organizations, such as hand hygiene, social isolation, identification and monitoring of suspected or confirmed cases; and also the local measures implemented in the health service, such as the reduction in the number of hospitalizations for transplantation, clinical screening of outpatients entering the service, monitoring of respiratory signs and symptoms, the allocation of specific isolation rooms for those suspected of the disease and testing of symptomatic patients. **Final considerations:** The nurse is responsible for the challenge of planning nursing care to prevent the spread of coronavirus in a high-risk population and to implement measures based on available evidence, periodically updated.

Descriptors: Hematopoietic Stem Cell Transplantation; Bone Marrow Transplantation; Coronavirus Infections; SARS Virus; Nursing Care.

RESUMO

Objetivo: Descrever a experiência da enfermagem, na adoção de medidas de contenção, no atendimento de pacientes submetidos ao transplante de células-tronco hematopoéticas para evitar a COVID-19. **Métodos:** Relato de experiência. **Resultados:** As medidas de contenção envolvem aquelas recomendadas pelas principais organizações de saúde, como a higiene de mãos, isolamento social, identificação e monitoramento de casos suspeitos ou confirmados; e ainda as medidas locais implementadas no serviço de saúde, como a redução no número de internações para o transplante, triagem clínica de pacientes ambulatoriais que adentram o serviço, monitoramento de sinais e sintomas respiratórios, destinação de quartos de isolamento específicos para os suspeitos da doença e testagem de pacientes sintomáticos. **Considerações finais:** Compete ao enfermeiro o desafio de planejar o cuidado de enfermagem para a prevenção da disseminação do coronavírus em população de alto risco e para a implementação de medidas pautadas nas evidências disponíveis, periodicamente atualizadas.

Descritores: Transplante de Células-Tronco Hematopoéticas; Transplante de Medula Óssea; Infecções por Coronavírus; Vírus da SARS; Cuidados de Enfermagem.

RESUMEN

Objetivo: Describir la experiencia de la enfermería, en la adopción de medidas de contención, en la atención de pacientes sometidos al trasplante de células madre hematopoyéticas para evitar la COVID-19. **Métodos:** Relato de experiencia. **Resultados:** Las medidas de contención envuelven aquellas recomendadas por las principales organizaciones de salud, como la higiene de manos, aislamiento social, identificación y monitoreo de casos sospechosos o confirmados; y aún las medidas locales implementadas en el servicio de salud, como la reducción en el número de internamientos para el trasplante, selección clínica de pacientes ambulatorios que adentran el servicio, monitoreo de señales y síntomas respiratorios, destinación de cuartos de aislamiento específicos para los sospechosos de la enfermedad y análisis de pacientes sintomáticos. **Consideraciones finales:** Compete al enfermero el desafío de planear el cuidado de enfermería para la prevención de la disseminación del coronavirus en población de alto riesgo y para la implementación de medidas pautadas en las evidencias disponibles, periódicamente actualizadas.

Descriptorios: Trasplante de Células Madre Hematopoyéticas; Trasplante de Médula Óssea; Infecciones por Coronavirus; Virus de la SARS; Cuidados de Enfermería.

INTRODUCTION

In Brazil, in February 2020, infection with the new coronavirus, SARS-CoV-2, was confirmed, whose disease was called Coronavirus disease (COVID-19), which is characterized by conditions ranging from asymptomatic to severe respiratory, being quickly classified as a Public Health Emergency of National Importance. Currently treated as a pandemic, virus transmission occurs from person to person, through droplets of respiratory secretion, body fluids or indirect contact with contaminated surfaces⁽¹⁾. Given the scenario, it is known that containment measures can reduce the transmission of the virus and, in turn, mortality and collapse of the health system.

Containment measures mainly include, hand hygiene, care when coughing and sneezing, social isolation, assessment and treatment of suspected or confirmed cases. In the literature, some elements are indicated that make the measures to contain COVID-19 important in the context of public health in general, namely: transmissibility of the disease, geographical spread, clinical severity, population vulnerability and availability of prevention measures⁽¹⁻²⁾.

Because it is an emerging disease, many unanswered questions permeate it, such as: the incubation period, asymptomatic infection rate and quality of the host's immune response⁽³⁾. Such a context requires global efforts to plan and adopt mitigation strategies in relation to the virus, prioritizing the lowest possible mortality⁽⁴⁾.

Usually, a healthy individual can be affected by the disease and present an unfavorable outcome; thus, the patient undergoing haematopoietic stem cell transplantation (HSCT) may be at higher risk, due to the impairment of the immune system. The transplant population is considered to be the one with the highest risk, with the possibility of an atypical clinical condition, since the treatment, until then, is only supportive^(1,3,5).

The reception, care and adoption of prevention and control measures to COVID-19 must be performed by health services, through the establishment of standards, routines and protocols of care. Understanding that this management is fundamental for the identification and prevention of contamination by SARS-CoV-2, and that the measures may suffer adaptations according to institutional characteristics, availability of resources and specificities of patients, the present experience report was elaborated, on the containment measures adopted by nursing in the care of patients undergoing HSCT in times of COVID-19, with the purpose of offering subsidies for health services.

OBJECTIVE

To describe the experience of nursing, in adopting containment measures, in the care of patients undergoing haematopoietic stem cell transplantation to avoid COVID-19.

METHODS

It is a report of the experience of nursing in the care, in COVID-19 times, to transplant patients in an outpatient service of Bone Marrow Transplantation (STMO) of a university hospital, located in the South of Brazil, a national reference in HSCT.

This report addresses the initial and continuing care provided by nursing to transplant patients, including those with any respiratory symptoms, upon entering the STMO from March 2020. It is noteworthy that post-transplant patients, after hospital discharge, should receive outpatient care, that is, they need to continue treatment, not being allowed to remain in home isolation, permanently, as a measure of contamination prevention to COVID-19, as recommended by the Ministry of Health.

Patients are seen at the outpatient clinic to receive immunosuppressants, antibiotics, electrolytes, hydrations, haemocomponents transfusions, perform laboratory test collections, dressings and maintain central venous catheters, according to the needs and demands of the individual clinical condition. Nursing assessment and care are daily, since these patients are in a day hospital after transplantation. At the STMO in question, 15 nurses work in the morning and afternoon shifts and provide direct assistance to patients every day of the week.

In this report, the care provided is described, which is based on the institutional protocol for handling suspected and confirmed cases of COVID-19, which is based mainly on the recommendations of the National Health Surveillance Agency (ANVISA); and also the guidelines of the State Department of Health (SESA) and the Brazilian Hospital Services Company (EBSERH).

RESULTS

As already mentioned, the STMO of this report is located in a university hospital, where the measures adopted to care for suspected and confirmed cases of COVID-19 were: creation of tents to screen patients in order to check for the presence of symptoms of infection by SARS-CoV-2 at all hospital entrances; expansion of the professional staff, including university professors and students in the health field; protection of professionals and family members, with the creation of accommodation for professionals and the purchase of personal protective equipment; assistance to professionals with suspicion, via tele-orientation; education and information, through channels of doubts; and measures to avoid crowding (cancellation of appointments, postponement of exams and elective surgeries, restriction of companions)⁽⁶⁾.

It is known that cancer patients have a higher risk of SARS-CoV-2 infection, as well as a higher risk of serious events and faster deterioration than individuals without the disease^(3,7). Thus, specifically in the STMO, the measures adopted to prevent the disease are described below.

The first one referred to the reduction of hospitalizations for HSCT, keeping the procedure only for patients without clinical conditions of waiting, through the risk-benefit assessment for the recipient, since many haematological patients cannot have treatment late⁽⁵⁾. Thus, there was a substantial reduction in hospitalizations, in order to reduce the risk of contamination by COVID-19 to patients using immunosuppressants. This measure is in line with the Ministry of Health and other international recommendations^(3,7-8).

At the STMO, before the mandatory recommendation by the Ministry of Health, the use of a surgical mask by all members of the assistance and administrative team was also determined, due to the vulnerability of patients and because it is an "open door" service for haematological patients, including those transplanted.

Among the containment measures, hand hygiene, either by washing with soap and water or by disinfecting with 70% alcohol, has always been an infection control measure strongly rooted in the nursing practice of this service, and in view of the COVID-19 pandemic, this measure was propagated and intensified among the other members of other professional categories.

Regarding the involvement of STMO professionals by COVID-19, until April this year, seven people (doctors and nurses) had respiratory symptoms, five of which were tested, of which three received a positive diagnosis for the disease. Of these three, all were asymptomatic, a worrying aspect, as this condition plays an important role in the transmission of the virus, according to the results evidenced in a study conducted in the United States of America⁽⁹⁾. In this context, the importance of testing health professionals is highlighted, a measure that was only adopted by the institution as of the second half of April/2020, due to the scarcity of tests in the national territory.

In view of this situation and the recommendations of different health organizations, STMO is implementing measures to reduce the number of active professionals in the sector and evaluating the possibility of remote work by professionals from the risk group, in order to preserve patients and the workforce. Thus, the guidance for nurses is that, in the occurrence of respiratory symptoms, the professional should be away for at least seven days, as recommended by ANVISA, and that he receive tele-guidance by the occupational health service. In the persistence of symptoms, the professional is evaluated; and, if necessary, leave is extended for up to 14 days. On the other hand, such conduct is probably not enough; this inference is based on a study, whose authors reported about the improbability that control based on symptoms is effective in the context of COVID-19⁽⁴⁾.

Regarding patients, until April this year, six patients who underwent haematopoietic stem cell transplantation with respiratory symptoms were treated, two of whom had to be hospitalized for persistent fever and one also with cough associated with the condition. Of the six patients, five were tested for COVID-19 and had negative results.

Usually, in the STMO in question, any clinical symptoms are alarming for the health team and require intervention, considering the criticality of the transplanted patient. In the context of COVID-19, the patient's report of any symptoms was collected, recorded and monitored. It is noteworthy that the intensification in the monitoring of adverse reactions in transplanted patients, including the respiratory and classic signs and symptoms of SARS CoV 2 infection, is indicated by the Ministry of Health and by international studies^(1,3,7).

As another important containment measure, a nurse was kept to screen patients at the entrance to the STMO clinic, identifying those with any respiratory symptoms and, if so, — after immediate supply of a surgical mask if they were not wearing it —, directing them to isolation rooms. The dissemination of posters by the service, in waiting areas and close to the elevators, disclosing to the health team about the existence of respiratory symptoms, was also adopted. Such measures were adapted according to the control recommendations pointed out by ANVISA, in a technical note⁽¹⁰⁾.

Due to patient turnover and regional seasonality, in which respiratory conditions may be common, three quarters of isolation

were provided at the STMO for the care of patients with respiratory complaints, duly identified, and for all of them, the care approach adopted was the suspicion of COVID-19 (precautions for contact, droplets and aerosols, as well as for procedures that generate the latter). Such conduct was taken since community transmission was recognized and confirmed in the national territory, and the population of transplant recipients must be protected as a priority, also ensuring the protection of other patients and the health team⁽⁵⁾. It is noteworthy that the service must ensure, internally, the implementation of health actions with the objective of reducing exposure to the new coronavirus, among which is the rapid isolation of suspected cases of COVID-19⁽¹⁰⁾.

Thus, it was necessary to put on personal protective equipment (PPE) by the STMO nurse for nursing care and evaluation, with subsequent request for medical evaluation. It is pointed out that the use of PPE must be provided for in institutional policies and procedures⁽⁵⁾, a measure sought after by the institution. For guidance on the use of PPE, specifically vesting and decoupling, the Hospital Infection Control Service (SCIH) of the institution provided videos to health professionals with demonstrative content. In addition, with a view to professional protection, the institution adopted the use of internal uniforms ("pajamas") by all care teams.

The outpatient clinic is intended for the long-term acute and chronic management of HSCT recipients⁽⁵⁾. Thus, assistance was provided differently for those patients who had clinical conditions to collect laboratory tests less frequently, had no complaints, a stable clinical condition and were able to receive medications only orally. Despite such conduct, about six to eight patients remained in daily outpatient care, being screened before hospital admission and also evaluated by STMO nurses. Another measure adopted was the reduction, in the outpatient visits and stays, of transplant patients, in all possible situations, as provided for in Technical Note No. 25 of the Ministry of Health⁽¹⁾.

During the entire stay of the patient with respiratory symptoms in the STMO, they were kept in isolation on suspicion of COVID-19. In addition to this conduct, there was a reduction in entrances to the isolation rooms to carry out nursing care, seeking to concentrate the procedures, whenever possible, at the same time, in addition to allocating one nurse at a time, per day, to the care of this patient, as recommended by ANVISA⁽¹⁰⁾.

The patient's search for the STMO outpatient clinic, in cases of symptoms and variations in the clinical picture, is also usual practice and guided by the service. In the context of COVID-19, this practice has been strengthened and is recommended by Technical Note No. 25 of the Ministry of Health⁽¹⁾. It is worth mentioning that, due to the higher risk, this patient profile requires guidance and follow-up of strict prevention measures, in addition to more intensive surveillance and treatment in case of coronavirus contamination⁽⁷⁾. For this reason, such patients are being monitored and advised as to the necessary care to prevent infection by SARS-CoV-2, as well as intervention measures are being adopted if the clinical picture changes, such as hospitalization.

The testing for COVID-19 of a transplanted patient with respiratory symptoms is currently also a practice adopted by the STMO, and this person remains being treated as a suspected COVID-19 until the testing is released. Until April 2020, none of the transplanted

patients tested positive for the new infection, but there was infection with other respiratory viruses, such as influenza A.

In general, the patient undergoing HSCT is informed and committed to their recovery, showing effective adherence to personal hygiene and infection control measures. Thus, the guidance and monitoring of measures to contain the spread and contamination by SARS-CoV-2 were not difficult to carry out. The emergent disease condition, in which the impact on these patients is unknown, was added to the vulnerability of their health status. It is noteworthy that the fear of what may happen may be the most important ally for adherence to such measures, not only for patients, but also for family members and members of the health team.

Among the adopted containment measures, there was a guarantee of access and functioning to the gel alcohol dispensers and also 70% alcohol for patients and family members during the service stay. In the macro perspective, the hospital as a whole sought to effectively implement this action.

Beyond the measures implemented for post-transplant patients, it is worth mentioning some actions taken for patients in the pre-transplant period. First of all, everyone is being tested for COVID-19 before interning and starting conditioning (preparation for HSCT), in compliance with Technical Note No. 36, from the Ministry of Health⁽⁸⁾. By the end of April, eight patients were tested, the results were negative, and the transplant did not have to be postponed. Besides this, in situations where haematopoietic stem cells are from unrelated donors, the product is expected to arrive before patient conditioning begins. These measures guarantee the safety of the HSCT receiver and are recommendations indicated by the Ministry of Health⁽⁸⁾.

According to ANVISA, the prevention and control measures of COVID-19 must permeate all stages of patient care when entering the health service, including the arrival, screening, waiting for care and assistance itself⁽¹⁰⁾. Based on this, planning and establishing actions for such control, considering the local characteristics, hospital sector, as well as the specifics of patients, become important measures to combat COVID 19, being exactly what is advocated in the STMO.

Some deficiencies in the process required new measures to be adopted, such as the closing of the STMO playroom after the identification of a child with respiratory symptoms, who has not yet undergone the transplant and who maintained contact with other patients at the site. There was also face-to-face training of the nursing team, by SCIH, to attend to suspected cases of COVID-19 after a first call occurred in which the flow was not recognized by all members of the nursing team.

After correcting these deficiencies, the initial flow of patient care in the STMO was better organized and disseminated among those involved. Given the above, individual professional participation in controlling the pandemic also stands out, as personal actions are as important as governmental ones⁽⁴⁾. So, in the meantime, the entire health team needs to be involved in disease prevention and control.

It should be stressed that the transplant population needs to be monitored for the appearance of signs and symptoms of COVID-19, as the impact of the disease can be overwhelming. In this context, one of the great challenges refers to the multi-professional approach to orchestrate the management of these patients and to make adaptations based on recent information, shared by more affected and experienced countries in relation to this pandemic^(3,7).

FINAL CONSIDERATIONS

The COVID-19 pandemic requires international and national efforts to seek solutions aimed at preventing and treating patients. In the context of HSCT, characterized by the complexity and vulnerability of the patient, the effort must be even more effective, with joint action between health professionals, SCIH and the health institution as a whole.

The HSCT nurse, whose purpose is to seek better results and improve the quality of life of the transplanted patient, is responsible for planning nursing care, in times of COVID-19, with a focus on minimizing impacts, preventing the spread of coronavirus in high-risk population and in implementing measures based on epidemiological information and available evidence, periodically disseminated and updated by national and international health authorities and the institution itself.

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