

# EPIDEMIOLOGICAL PROFILE IN A TERTIARY ADMISSION UNIT OF SPINE DISEASES

PERFIL EPIDEMIOLÓGICO EM UMA UNIDADE DE INTERNAÇÃO TERCIÁRIA DE DOENÇAS DA COLUNA VERTEBRAL

PERFIL EPIDEMIOLÓGICO EN UNA UNIDAD DE INTERNACIÓN TERCIARIA DE PATOLOGIAS DE LA COLUMNA VERTEBRAL

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## ABSTRACT

**Introduction:** In March 2020, WHO officially decreed that the world was going through a pandemic, that of Covid-19. In May 2022, in Brazil, the end of measures to deal with the pandemic was decreed. In 2022, there was a movement to return to normal care in the provision of care. **Objective:** In the present study, we carried out a retrospective descriptive analysis of the epidemiological scenario of the ward of the Spine Group at the Hospital das Clínicas of the Faculty of Medicine of the Universidade de São Paulo (HC-FMUSP). **Method:** Data analysis was performed from information gathered in patients' medical records. **Results:** In the analyzed period, there were 152 consultations in hospitalization, with the main cause being spinal trauma. Of all the cases, only 23.68% were scheduled on an elective basis, which despite being a lower than expected number, was shaped by the demands of urgent care channeled to the service in question. **Conclusion:** Despite a higher number of cases hospitalized in the post-pandemic period, there is still the expectancy of more elective cases to be treated in the future. **Level of Evidence III; Retrospective Case Series Study.**

**Keywords:** Spinal Diseases; Spinal Injuries; Health Centers.

## RESUMO

**Introdução:** Em março de 2020, a OMS decretou oficialmente que o mundo atravessava uma pandemia, a Covid-19. Em maio de 2022, no Brasil, decretou-se o fim das medidas de enfrentamento à pandemia. No ano de 2022, houve um movimento de retorno à normalidade assistencial na prestação de atendimentos. **Objetivo:** No presente estudo, realiza-se uma análise retrospectiva descritiva do cenário epidemiológico da enfermaria do Grupo de Coluna Vertebral do Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo (HC-FMUSP). **Método:** A análise dos dados foi efetuada a partir do levantamento de prontuários médicos. **Resultados:** No período analisado, houveram 152 atendimentos em regime de internação, com a principal causa sendo o traumatismo da coluna vertebral. De todos os casos, apenas 23,68% foram casos agendados em regime eletivo, o que apesar de ser um número abaixo do esperado, foi moldado pelas demandas dos atendimentos de urgência canalizados ao serviço em questão. **Conclusão:** Apesar do aumento de atendimentos no período pós pandemia, há espaço para maior retomada do volume de casos eletivos no futuro. **Nível de Evidência III; Estudo Retrospectivo de Série de Casos.**

**Descritores:** Doenças da Coluna Vertebral; Traumatismos da Coluna Vertebral; Centros de Saúde.

## RESUMEN

**Introducción:** En marzo de 2020, la OMS decretó oficialmente que el mundo atravesaba una pandemia, la del Covid-19. En mayo de 2022, en Brasil, se decretó el fin de las medidas para enfrentar la pandemia. En el año 2022, hubo un movimiento para volver a la atención normal en la prestación de cuidados. **Objetivo:** En el presente estudio, realizamos un análisis descriptivo retrospectivo del escenario epidemiológico de la sala del Grupo de Columna Vertebral del Hospital das Clínicas de la Facultad de Medicina de la Universidade de São Paulo (HC-FMUSP). **Método:** El análisis de los datos se realizó con acceso al prontuario médico de los pacientes. **Resultados:** En el período analizado, hubo 152 consultas en hospitalización, siendo la principal causa trauma espinal. Del total de casos, solo el 23,68% fueron programados de forma electiva que, a pesar de ser un número inferior al esperado, estuvo condicionado por las demandas de atención urgente canalizadas al servicio en cuestión. **Conclusión:** A pesar del aumento de asistencias en el período postpandemia, hay espacio para una mayor recuperación futura en el volumen de casos electivos. **Nivel de Evidencia III; Estudio Retrospectivo de Serie de Casos.**

**Descriptorios:** Enfermedades de la Columna Vertebral; Traumatismos Vertebrales; Centros de Salud.

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## INTRODUCTION

In March 2020, the WHO officially declared that the world was going through a Covid-19 pandemic. In May 2022, Brazil decreed the end of measures to tackle the pandemic. In the meantime, we have been able to observe in our midst a situation hitherto unknown to practicing physicians: conversion of beds for treatment of respiratory infection, thousands of deaths in a short period, and massive and prolonged cancellation of elective surgeries.<sup>1</sup>

The Hospital das Clínicas of USP School of Medicine (HC-FMUSP) has had the Institute of Orthopedics and Traumatology (IOT) since 1953, for 70 years, as a reference center in the care and assistance of orthopedic patients. Sectored into care groups, the IOT has all the orthopedic subspecialties for emergency, outpatient, clinical, and surgical care provided under the Unified Health System (SUS) principles.

The Spinal Surgery group has a ward dedicated to caring for patients with spinal pathologies, with a strong emphasis on trauma and spinal cord injury. There are 19 rotating beds exclusively for the care of these patients. At the outpatient clinic, more than 2,500 consultations are carried out annually, including new cases, pre-and postoperative consultations, and follow-ups, in line with the high frequency of spinal pathologies observed in society.<sup>2</sup>

Despite a well-established routine in scheduling and performing surgeries (emergency and outpatient), the pandemic has inherently affected the care activity of the Spine Group, the entire Hospital das Clínicas, and other health centers throughout the national territory.<sup>3</sup>

The year 2022 was the first year in which a relative return to normality was experienced after the most critical period associated with Covid-19. To a large extent, we were able to resume much of the usual level of care once offered in the public service of HC-FMUSP.

## OBJECTIVE

The present article aims to retrospectively portray the epidemiological profile of the Spine Surgery group ward at HC-FMUSP in 2022.

## METHODS

Data were retrospectively collected from medical records of cases included in the Spine Surgery ward census referring to patients receiving care there throughout the year 2022. The consent form was waived since retrospective descriptive data from the hospital census were used without any intervention with any patient or interference with the care received on the part of the present study. The article was approved by the Research Ethics Committee (CAAE: 67445023.2.0000.0068).

Data were obtained on sex, diagnosis, surgical or conservative treatment, outcome of hospitalization, and length of hospital stay.

## RESULTS

There were 152 hospitalizations between January and December 2022. Of the patients, 96 (63.15%) were male, and 56 (36.8%) female. (Figura 1) The age range varied from 17 to 90 years, with a mean age of 48.53. Among women, the mean age was 48.05 years. Among men, the mean age was 48.82 years.

The minimum length of stay was one day, and the maximum was 78 days. The mean length of stay in the ward was 16.42 days for all cases. When we exclude the 3 death cases, the average is 15.96 days. The average length of stay for cases that died was 38 days.

Eleven groups of diagnoses made up the total number of cases (Figure 2): neoplasms (9 cases), demyelinating neurological diseases (1 case), spinal canal stenosis (20 cases), cauda equina syndrome (5 cases), scoliosis (4 cases), intervertebral disc disorders (30 cases), chronic intractable pain (1 case), vertebral fractures (70 cases), spinal trauma (2 cases), spondylodiscitis (9 cases) and mechanical complication of implants (1 case). Of all cases, 116 (76.31%) were admitted on an urgent basis and 36 (23.68%) on an elective basis.

Most cases comprised spinal fractures, representing 46% (70 occurrences) of the total inpatient cases. Of these, 7.14% (5 cases) corresponded to upper cervical fractures (C1 and C2); 35.71% (25 cases) to lower cervical fractures (C3 to C7); 12.85% (9 cases) to thoracic vertebrae fractures; 34.28% (24 cases) to lumbar vertebrae fractures and 10% (7 cases) to sacral vertebrae fractures. (Figure 3) Of the inpatient cases with fractures, 13 received conservative treatment, and 57 received surgical treatment.

Regarding the trauma cases, in 40% (28 cases), the trauma mechanism was an automobile accident; in 42.85% (30 cases), the mechanism was fallen from height; in 4.28% (3 cases), the mechanism was diving in shallow water and 12.85% (9 cases) there were diverse causes (such as direct trauma by object). (Figure 4)

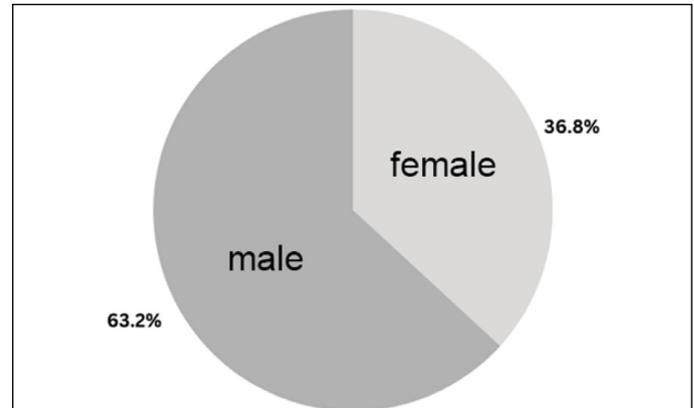


Figure 1. Total hospitalizations in proportion to the sex of the patients.

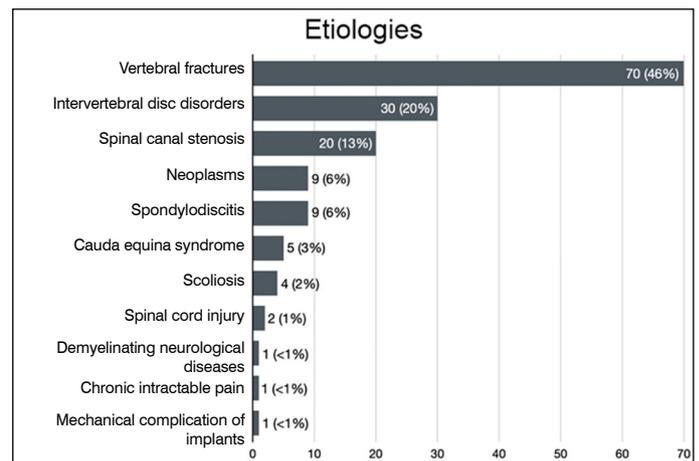


Figure 2. Etiological distribution of assisted cases.

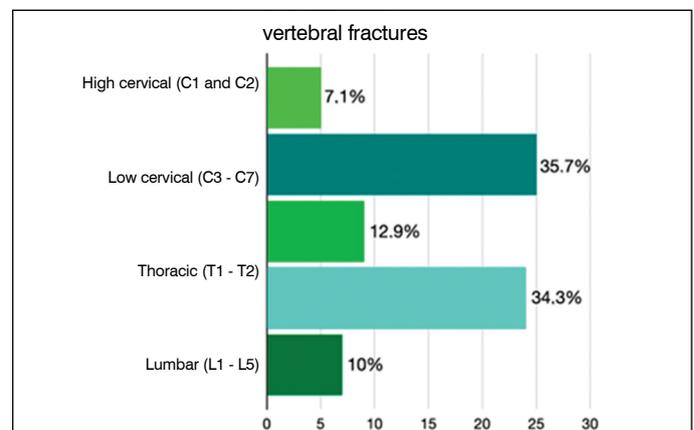


Figure 3. Topographic distribution of vertebral fractures.

Among the 152 hospitalized cases, 23.02% (35 cases) were managed conservatively, while 76.97% (117 cases) were managed surgically. (Figure 5) In the latter, the average number of days between admission and surgery was 6.95, and the average between surgery and hospital discharge was 9.18.

Of the total cases admitted in 2022, there were three deaths during hospitalization, two of which received surgical treatment. Nine patients were transferred to ICESP (Cancer Institute of the State of São Paulo), a reference of the HCFMUSP complex in oncology, for reasons of oncological treatment. The other 140 cases were medically discharged from the ward as the outcome of the hospitalization. (Figure 6)

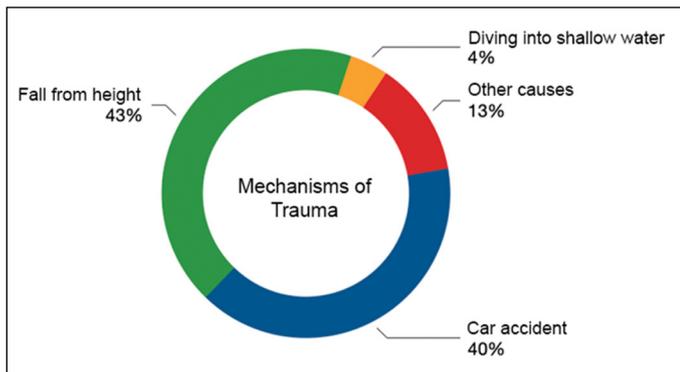


Figure 4. Trauma mechanisms are present in assisted cases.

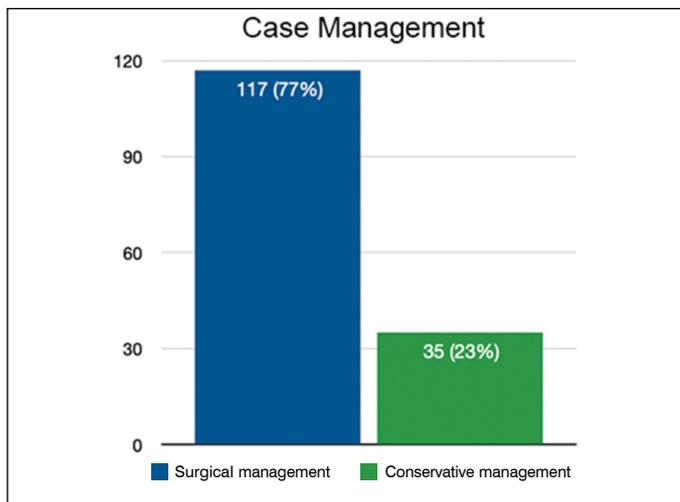


Figure 5. Proportionality of the type of case management.

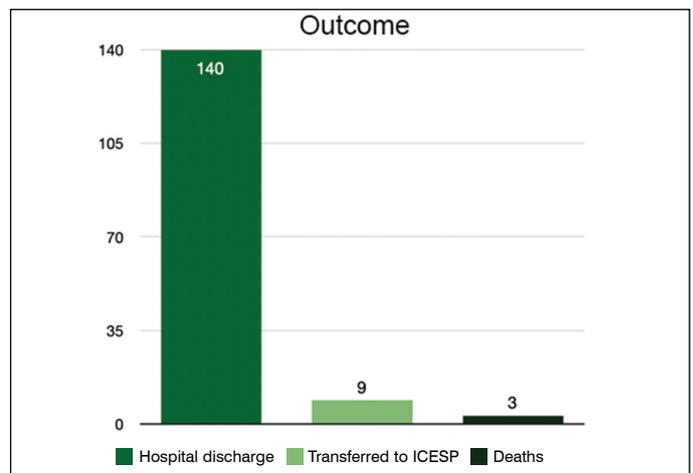


Figure 6. The outcome of hospitalizations.

### DISCUSSION

There is a heterogeneous profile of cases seen as inpatients in the Spine Group ward during 2022. Certainly, the 117 cases managed surgically represent a high number compared to previous pandemic years, when an average of 60 to 70 cases were operated on in the year.

However, the low occurrence of scoliosis cases, for example, is indicative that we are still below our usual productivity, especially in the elective context. Only 23.68% of cases treated in the inpatient setting were electively scheduled cases.

At the same time, the volume of fractures was high, given that the IOT is a trauma reference for several hospitals in the greater São Paulo area, receiving two trauma cases daily on weekdays through its emergency room.

Thus, the epidemiological profile of the ward we present is shaped by the demands of the SUS on the service in question, especially to emergency care.

### CONCLUSION

Throughout 2022, the number of surgical cases resumed with the cooling of the pandemic in our country. However, there is still room for growth in the volume of elective cases, which is a challenge for the coming years.

All authors declare no potential conflict of interest related to this article.

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