

## Maxillary fracture in an elderly woman after a domestic fall

Fratura de maxilar em uma mulher idosa após uma queda domiciliar

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### ABSTRACT

Falls among older adults represent a major public health concern and are frequently associated with facial fractures, functional complications, and increased morbidity and mortality. This report describes the case of an 89-year-old female patient who suffered a fall from standing height while alone at home, resulting in facial trauma. She was taken to the Emergency Department of the Hospital de Clínicas de Campo Limpo Paulista, where she underwent clinical evaluation, detailed physical examination, facial palpation, ophthalmologic assessment, and computed tomography of the head and neck. Findings included significant facial edema, periorbital hematoma, and a maxillary bone fracture involving the maxillary sinus, without bone displacement. Therapeutic management of facial fractures in elderly patients remains a topic of debate, especially considering increased surgical risk, bone fragility, and comorbidities. In this case, conservative treatment was chosen due to the stability of the bone fragments, absence of

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significant functional impairment, and the patient's advanced age. Clinical evolution was favorable, with gradual reduction of edema, resolution of the hematoma, and adequate bone healing without aesthetic or functional sequelae. This case reinforces the importance of individualized assessment in elderly patients with facial fractures, highlighting that the decision between surgical and conservative treatment must consider not only the fracture pattern but also the patient's overall condition, anesthetic risks, and recovery potential. The non-surgical approach proved effective, safe, and economically advantageous, reducing hospital costs and avoiding unnecessary surgical complications.

**Keywords:** Elderly; Facial fractures; Conservative treatment; Trauma; Maxilla.

## **RESUMO**

As quedas em idosos representam um importante problema de saúde pública e estão frequentemente associadas a fraturas faciais, complicações funcionais e aumento da morbidade e mortalidade. Este relato descreve o caso de uma paciente do sexo feminino, com 89 anos de idade, que sofreu uma queda da própria altura enquanto estava sozinha em sua residência, resultando em trauma facial.

A paciente foi encaminhada ao Serviço de Emergência do Hospital de Clínicas de Campo Limpo Paulista, onde foi submetida à avaliação clínica, exame físico detalhado, palpação facial, avaliação oftalmológica e tomografia computadorizada de cabeça e pescoço.

Os achados incluíram edema facial significativo, hematoma periorbitário e fratura do osso maxilar envolvendo o seio maxilar, sem deslocamento ósseo. O manejo terapêutico das fraturas faciais em pacientes idosos permanece um tema de debate, especialmente considerando o aumento do risco cirúrgico, a fragilidade óssea e a presença de comorbidades.

Neste caso, optou-se pelo tratamento conservador em virtude da estabilidade dos fragmentos ósseos, ausência de comprometimento funcional significativo e idade avançada da paciente. A evolução clínica foi favorável, com redução progressiva do edema, resolução do hematoma e adequada consolidação óssea, sem sequelas estéticas ou funcionais.

Este caso reforça a importância da avaliação individualizada em pacientes idosos com fraturas faciais, destacando que a decisão entre tratamento cirúrgico e conservador deve considerar não apenas o padrão da fratura, mas também as condições gerais do paciente, os riscos anestésicos e o potencial de recuperação. A abordagem não cirúrgica mostrou-se eficaz, segura e economicamente vantajosa, reduzindo custos hospitalares e evitando complicações cirúrgicas desnecessárias.

**Palavras-chave:** Idosos; Fraturas faciais; Tratamento conservador; Trauma; Maxila

## INTRODUCTION

Falls in older adults are one of the leading causes of morbidity and mortality in this population, representing an increasing challenge for healthcare systems. With population aging, there has been a significant rise in the incidence of domestic accidents, especially falls from standing height, which frequently result in facial trauma. Bone fragility due to osteoporosis, reduced visual acuity, balance disorders, and the use of multiple medications contribute to the elevated risk of falls (Silva et al. 2017; Thompson and Rivera, 2018).

Facial injuries in the elderly may range from mild contusions to complex fractures involving facial bones, the orbit, and the mandible. Beyond physical impact, these injuries can compromise self-esteem, functionality, and quality of life, particularly when associated with severe pain, difficulty chewing, aesthetic changes, and infection risk.

Facial fractures in elderly individuals present particularities that differ from those observed in younger adults. Reduced bone mineral density and decreased tissue elasticity increase the likelihood of fractures even in low-energy trauma.

Additionally, the healing process tends to be slower, and comorbidities such as hypertension, diabetes, and cardiovascular diseases may complicate clinical and surgical management. Therapeutic decisions must be carefully considered, weighing the risks and benefits of surgical interventions, which may require general anesthesia and longer hospital stays.

Although surgical correction is indicated in fractures with significant displacement or functional impairment, many cases in elderly patients can be managed conservatively, especially when bone fragments remain stable (Almeida et al. 2019).

Treatment choice must be individualized, considering the patient's clinical condition, fracture pattern, risk of complications, and expected functional recovery (Johnson et al, 2020; Pereira and Santos, 2021; Wu et al. 2022; O'Connor and Lee, 2024) .

This case report contributes to the discussion on optimal management of facial fractures in older adults, emphasizing the importance of multidisciplinary and thorough evaluation.

## **AIM**

To evaluate the most appropriate management for facial fractures in elderly patients, discussing criteria for surgical versus conservative treatment, with emphasis on safety, bone stability, risk-benefit assessment, and clinical outcomes.

## **METHODOLOGY**

The patient was evaluated at the Emergency Department of the Hospital de Clínicas de Campo Limpo Paulista after a fall from standing height. Initial assessment included medical history, general physical examination, and specific facial examination with palpation of the zygomatic, maxillary, and orbital regions.

Ophthalmologic evaluation was performed to rule out diplopia, restricted eye movements, or associated injuries. Computed tomography of the head and neck was used to identify fractures, assess bone displacement, and verify involvement of the maxillary sinus.

Data were analyzed to determine the safest and most effective therapeutic approach similar to Martins et al. 2023. The Ethics Committee followed CNS Resolution No. 510/2016 and CNS Resolution No. 674/2022.

## **RESULTS**

Examination revealed marked facial edema, particularly in the malar region, accompanied by periorbital hematoma. Palpation showed localized pain without significant crepitus. Ophthalmologic evaluation revealed no motor or sensory alterations (Figure 1).



Figure 1: Physical evaluation revealed marked facial edema, particularly in the malar region, accompanied by periorbital hematoma.

Computed tomography (Rodrigues et al. 2025), identified a maxillary bone fracture involving the maxillary sinus, without displacement of bone fragments and without orbital cavity involvement (Figures 2 and 3).



Figure 2: A transverse computed tomography scan of the skull shows a fracture in the maxillary region extending into the maxillary sinus with intrasinus blood accumulation.



Figure 3: A sagittal computed tomography scan of the skull shows a fracture in the maxillary region, with intrasinus blood accumulation and bone stability.

Given the stability of the fracture and absence of functional deficits, conservative treatment was chosen, including analgesia, cold compresses, and outpatient follow-up. The patient showed progressive improvement, with resolution of edema and hematoma within approximately three weeks.

Bone healing occurred without complications, and the patient recovered fully, with no aesthetic or functional sequelae.

## **DISCUSSION**

Management of facial fractures in elderly patients must consider multiple factors (Chen et al. 2026), including fracture pattern, bone stability, surgical risk, and overall clinical condition. Literature shows that older adults have a higher risk of perioperative complications, such as cardiovascular events, infections, and anesthetic difficulties.

In nondisplaced fractures, as in the present case, conservative treatment is often sufficient to ensure good recovery. Surgery, although effective in cases of instability or significant deformity, may represent unnecessary risk when bone fragments are aligned.

Recent studies reinforce that non-surgical management reduces hospital costs (Thomasini et al. 2025), length of stay, and complication rates without compromising functional outcomes. Decision-making must be individualized, prioritizing patient safety and quality of life. Bone stability, absence of functional impairment, and advanced age favor less invasive approaches.

Furthermore, spontaneous recovery in stable fractures tends to be satisfactory, especially when supported by appropriate clinical follow-up.

## **CONCLUSION**

The 89-year-old patient presented a nondisplaced maxillary fracture after a domestic fall. Conservative treatment was chosen due to advanced age, bone stability, and absence of functional impairment.

The outcome was favorable, with complete recovery and no sequelae. The non-surgical approach reduced hospital costs and avoided unnecessary surgical risks, demonstrating its safety and effectiveness in selected cases of facial fractures in elderly patients.

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