Congresul Național de Medicină Fizică, de Recuperare și Balneoclimatologie
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One Reckless Misstep, Polytrauma with Two Injured Joints – Difficulty in Functional Rehabilitation

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Polytrauma – A Complex Medical Challenge

- Polytrauma represents injuries affecting multiple body regions or organ systems
- Usually caused by high-energy trauma (falls, road accidents)
- Frequently associated with significant morbidity and functional impairment
- Requires multidisciplinary management (orthopedic, surgical, rehabilitation)



Functional impact of polytrauma

- Combined injuries lead to prolonged immobilization
- Increased risk of complications:
  - joint stiffness
  - muscle atrophy
  - chronic pain
- Functional recovery is often delayed and challenging
- Early and structured rehabilitation is essential



Introduction

- Post-traumatic gonarthrosis is a frequent consequence of high-energy joint injuries
- It results from structural damage to articular surfaces
- Associated lesions may significantly complicate functional recovery
- Rehabilitation plays a key role in restoring mobility and independence



Case presentation

-Female patient, 58 years old
-Known with essential hypertension
-Admitted following a fall from height
-High-energy trauma with multiple skeletal injuries

Initial injuries

Right tibial plateau fracture → surgically treated
Right proximal humerus fracture → conservatively managed
Complex post-traumatic musculoskeletal involvement



Paraclinic findings (CT)

CT imaging confirmed right tibial plateau fracture
Articular involvement with functional impact





Orthopedic management

Orthopedic Management Prior to Rehabilitation

Surgical treatment for right tibial plateau fracture:

→ open reduction and internal fixation (ORIF)

→ fixation with plate and locked/non-locked screws

Conservative treatment for right proximal humerus fracture:

→ Dessault orthosis for 3 weeks

→ followed by intermittent sling immobilization

Orthopedic stabilization enabled initiation of rehabilitation program



Initial clinical status

- Preserved general condition, conscious and cooperative
- Postoperative wound at right knee and tibia – favorable aspect
- Pain and functional impairment in right shoulder and knee
- Muscle strength not testable (right upper and lower limb)

Functional status

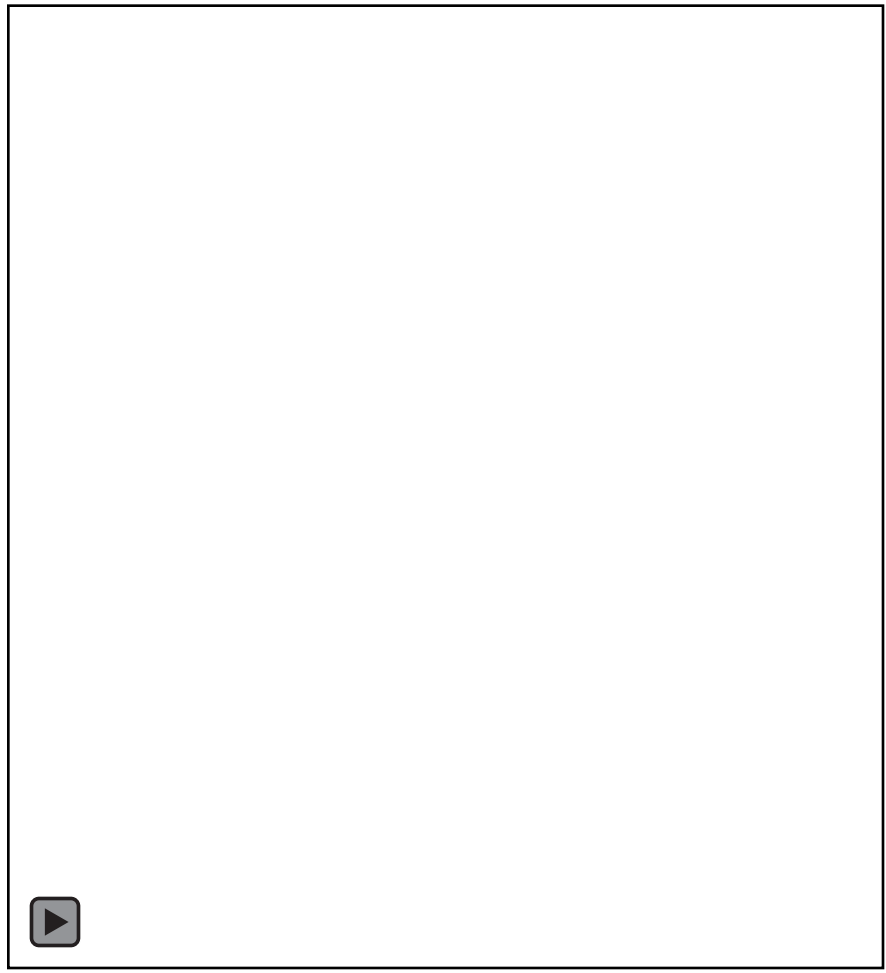
- Limited autonomyAble to maintain sitting position at the edge of the bed (short duration)Dependent for mobility and daily activities

Neuromuscular examination

- Sensory deficits, osteotendinous reflexes not elicitable on the right sideLocal inflammatory signs at tibial levelSignificant locomotor and functional limitation

Rehabilitation objectives

- Pain reduction
- Prevention of complications
- Improvement of joint mobility
- Muscle strength recovery
- Restoration of functional independence

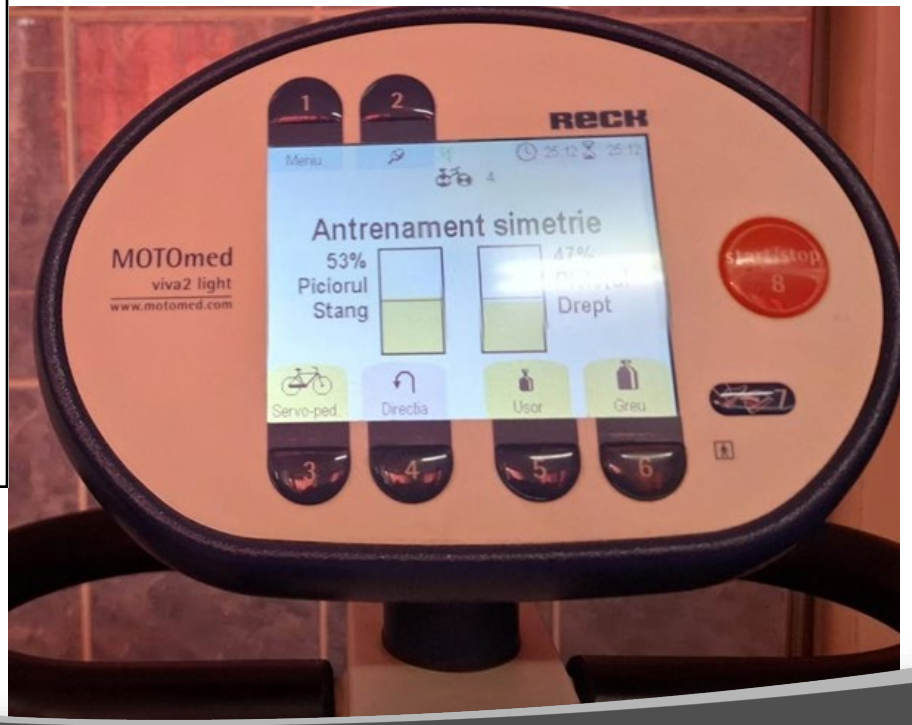


Functional evolution

- Gradual improvement in pain and mobility
- Initiation of assisted ambulation
- Walking with support using a walking frame

EVOLUTION

EVOLUTION


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EVOLUTION

Functional outcome

- Significant improvement in functional status
- Muscle strength: 4/5 (MRC) in right upper and lower limb
- Independent sitting and improved mobility
- Ambulation with crutch on short distances

OUTCOME

DISCUSSION

Complex case due to:

- Associated upper and lower limb injuries
- Post-traumatic joint degeneration

- Rehabilitation challenges:
  - Delayed mobilization
  - Functional dependency
- Multidisciplinary approach is essential for recovery

CONCLUSIONS

- Combined surgical and rehabilitation management led to favorable outcome
- Functional recovery requires structured and continuous rehabilitation
- Early intervention improves long-term prognosis and quality of life

THANK YOU

