

Medical-rehabilitation endeavors, care interventions and connotations of a medical-social type, in a complex polypathological case: paraplegia, spondylodiscitis, kidney failure in the haemodialysis stage, and bilateral nephrostomies post operated bladder neoplasm

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Abstract

Introduction Paraplegia or paralysis of lower extremities is caused mainly by disorders of the spinal cord and cauda equina. They are classified as traumatic and non traumatic. Non traumatic paraplegia has multiple causes such as cancer, infection, intervertebral disc disease, vertebral injury and spinal cord vascular disease.

The current case report presents the case of a male patients with paraplegia related to the thoracic spondylodiscitis in a patient on haemodialysis. **Material and method.** Having the patient's consent and The Teaching Emergency Hospital "Bagdasar-Arseni" Ethics Committee's approval, N.O. 17464/14.06.2019, a 72 years old patient, which known with operated bladder neoplasm (2015-neobladder), Chronic kidney failure in haemodialysis program and spondylodiscitis T10-T11 operated in 29.12.2018. **Results and discussions.** The patient improved on most of the assessment scales/scores implemented in our clinic's Division Motor FIM (Functional Independence Measure) from 43/91 to 54/91,AIS (American Spinal Injury Association Impairment Scale) from 85/100 motor to 92/100. **Conclusions.** Infectious diseases are important causes of non-traumatic paraplegia. The risk of infection on haemodialysis patient is further increased because of frequent routine skin penetration for venipuncture and operative procedures such as placement of venous catheters and vascular grafts.

Key words: *paraplegia, haemodialysis, spondylodiscitis, neoplasm, nephrostomy,*

Introduction

Paraplegia or paralysis of lower extremities is caused mainly by disorders of the spinal cord and cauda equina. They are classified as traumatic and non traumatic. Traumatic paraplegia occurs mostly as a result of traffic accidents and falls caused by lateral bending, dislocation, rotation, axial loading, and hyperflexion or hyperextension of the cord. Non traumatic paraplegia has multiple causes such as cancer, infection, intervertebral disc disease, vertebral injury and spinal cord vascular disease. (1,2,6,7). One of the most important causes of paraplegia among infectious causes is bacterial infection. These organisms can produce subdural empyema, epidural abscesses, radiculomyelitis or cause spondylitis with bony destruction or pressure effect. (5). Spondylitis is osteomyelitis of the spinal column. This is defined as infection accompanied by destruction of the vertebral bodies, starting at the endplates, but with secondary involvement of the intervertebral discs. The term "spondylodiscitis" means primary infection of the intervertebral disc by a pathogen, with secondary infection of neighboring vertebral bodies. At diagnosis, inflammatory changes in both the vertebral bodies and intervertebral discs are usually evident in the x-ray,

so that the origin of the bacterial infection is no longer clear. For this reason, both terms are used (3 4)

Case presentation

This paper presents the case of a 72-year-old patient (having the TEHBA Bioethics Committee approval no17464/14.06.2019), with Personal Antecedents of: operated spondylodiscitis T10-T11 29.11.2018, operated bladder neoplasm and kidney failure in the haemodialysis stage.

The reasons for admission: motor deficit in lower limb, deficit of locomotion and self-care.

General clinical examination: afebrile, Blood Pressure=125/70 mmHg, Pulse=73/min, SpO₂=95%
Neurological examination: temporal-spatial oriented, conscious, cooperative, motor deficit (according to AIS/Frankel Scale) of paraplegia type, with T10 neurological level

The patient was assessed functionally using the following scales : AIS (American Spinal Injury Association Impairment Scale) = 85 motor from 100 points, sensory = 224 from 224 points, spasticity = 0 on Ashworth modified scale, FIM (Functional Independence Measure):motor = 43 points; cognitive = 35 points, QoL (Life Quality Assessment Quality of Life) =82 points, Functional

Ambulation Categories(FAC) International Scale = 0.

Paraclinic: Creatinine was 4.99 (0.7-1.3 mg/dL) Iron was 32 (65-165 Aug) Magnesium was 3.3 (1.8-2.4 mg/dL) Urea was 72 (15.75-40 mg/dL) and ESR was 75 (3-8 mm/h).

During hospitalization, the patient received complex drug treatment with: injectable anticoagulants(intermittently, except for haemodialysis days), antiarrhythmic, vitamins supplements and osteotropic minerals, gastric protector, antibiotic, probiotic, uricoinhibitor drugs, also the patient benefitted from kinesiotherapy.

Results: The patient benefitted from a complex neuromuscular rehabilitation program, having a favorable evolution, with an increase in the evaluated scales scores: AIS/ Frankel score from 85 motor to 92 points, and sensory score from 224 to 224 points → from AIS/ Frankel C to D; FIM motor from 43 points to 58 points; cognitiv 35 points; QoL from 82 points to 90 points; FAC International Scale from 0 to 2-3.

Muscular strength upper limbs 5 at admission and discharge. Lower limbs at admission; 2 proximal, 3 intermedial and 4 distal. Lower limbs at discharge 4+.

As a final performance, the patient walks with support in the tetrapodal frame, with supervision.

After a complex neurorecovery program undertaken by a multidisciplinary team formed by doctors, kinesiotherapists, medium healthcare and paramedical personnel, the patient displayed a favorable evolution.

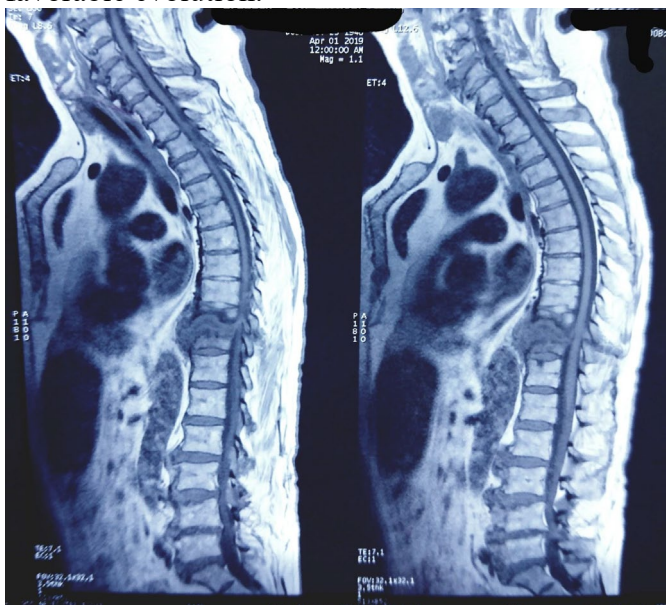


Fig.1. MRI- inflammatory bone structure, affecting the T10-T11 disco-vertebral complex

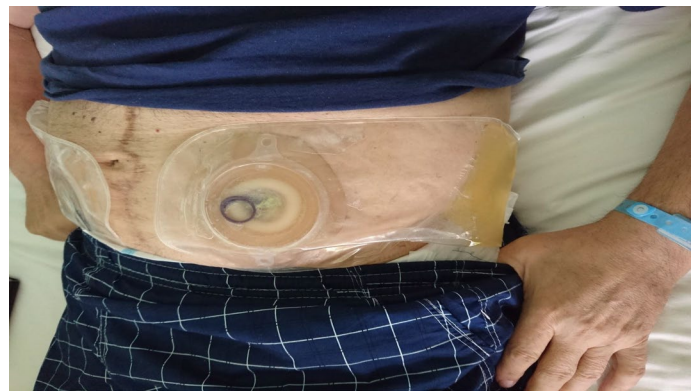


Fig. 2. Nephrostomy



Fig.3 .The patient walks with support in the tetrapodal frame, with supervision

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