

MANAGEMENT OF A TRAUMATIC HIP DISLOCATION IN A YOUNG CHRONIC PARAPLEGIC PATIENT. ENIGMA AND PROGRAM.

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Abstract

The rare occurrence of hip dislocation in a chronic young paraplegic person evoked many clinical questions: the possible etiologies and differential diagnoses of this situation, the possible and feasible treatments, and the prevention of probable further complications.

Keywords: chronic paraplegia, traumatic hip dislocation, rehabilitation medicine

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Case report:

ZH was born in 1970. In the year 2000, he sustained a severe injury while pedaling his bicycle. After an initial hospitalization in an orthopedic department he was transferred to the department of neuro-rehabilitation. Upon discharge, his final diagnoses were as follows:

Rehabilitation program

- Spastic Paraplegia below T6, ASIA B due to fall (4/11/00)
- Fracture-dislocation of T 6/7/8
- Left shoulder pain after blunt trauma
- s/p laminectomy at T6/7 4/11/00
- s/p autologous macrophage treatment & spinal fusion T9 13/11/00
- neurogenic bladder & bowel, self-intermittent catheterization
- s/p pseudomembranous colitis and bilateral lungs' contusion
- s/p mechanical ventilation.
- Cave penicillin

He moved to a rented apartment, well adapted and accessible to mobility on a wheelchair. Before the injury, after his military service, he studied international marketing and business administration and after the injury, he began to work as a salesman in a telecommunication firm. He is totally independent in all activities in daily living. He is active in various adapted sports activities [1-3], he never experienced pressure sores, and keeps constantly his follow-up program. He had received a thorough sexual counseling.

After his discharge, he was advised to begin artificial „walking“ treatment on the LOCOMAT machine [4] and at the same center he was treated after the injury. A short time after taking part in this program, he noticed that his right hip joint was painlessly dislocated. He was able to reduce this situation easily by himself, but during the next „artificial walking“ on the Locomat device, the dislocation re-occurred. He has consulted with me a few times.

Today, his radiological picture of the hip shows a total ankylosis and new bone formation around the joint:

Discussion

The following questions were asked by the patient and his family:

1. Should he continue to walk on this device?
2. Should he take part in various wheelchair sports activities or swimming?
3. Does this situation need any intervention, such as surgery, (total hip replacement (THR) or just „breaking“ the new bone-formation around the hip?
4. THR in paraplegics is rarely discussed in the literature [5]: „In ankylotic hips with mobility/social/hygienic problems we favor a hip replacement in cases with osteoarthritis or high risk of osteoporotic fracture. A replacement of the joint should be preferred to a Girdlestone operation“ [5].
5. Did we perhaps miss a preexisting destructive hip disease [6]?



Fig. 1. Patient's X-ray image

6. We report a case of destructive hip disease seven years after an injury responsible for complete paraplegia with sensory loss. The joint lesions were painless, and there was no local evidence of inflammation. Hip radiographs disclosed atrophic osteoarthropathy with complete destruction of the femoral neck and head. This unusual case raises questions about the pathophysiology of neuropathic osteoarthropathy in paraplegics [6].
7. Installation of intra-thecal Baclofen pump in order to reduce spasticity with the hope of less recurrence of the dislocation? Botox injections around the hip joint?
8. Aggressive physical therapy? Manipulation?
9. Or not to take any action at all?

Why did this dislocation occur?

1. Is there a rare possibility that, although the patient had enjoyed good health prior to the

accident, full activity and productivity, suffered from some metabolic or a local rheumatological problems that had weakened the area [7]?

2. Paraplegics are prone to various complications (osteoporosis, osteoarthritis or osteonecrosis, muscle or tendon tears, fractures or joints' dislocations). Perhaps the hip dislocation occurred due to artificial, repeated „passive“ walking (either on electrical or mechanical ergometer, Locomat, or on another occasion, during functional electrical therapeutic stimulation).
3. Did the dislocation perhaps occur during the initial accident?
4. Was there undiagnosed local infection [8]?
5. Was the dislocation due to „aggressive“ routine physiotherapy treatment?
6. Was the dislocation induced by severe maximal spasticity?

7. Was there para-articular ossification (heterotopic ossification) which initiated all this in form of a chain-reaction [9]?

I found only one similar report [10]: „Recurrent dislocation of the hip is rare and has not previously been reported in adult paraplegics. This paper describes 3 cases. In one patient it was spontaneous, occurring 16 years after the original injury and was associated with a flexion-adduction contracture of the hip and a shallow acetabulum. One case occurred after minor trauma in a patient who experienced flexion-adduction spasms of the hip. In the third patient the condition was secondary to posterior acetabular deficiency following a conservatively treated fracture dislocation. All 3 patients experienced symptoms of disabling autonomic dysreflexia during the episodes of dislocation. The importance of recognising and adequately treating hip injuries in patients presenting with paraplegia secondary to spinal cord injury is stressed. In patients with spastic paraplegia presenting with recurrent dislocation of the hip, operative treatment combining a soft tissue repair and a bone block to augment the acetabulum is recommended [9].

I have examined the patient a few times along the years. It is my impression that physical activity is an important part of his life. Whatever the etiology of his hip dislocation, which led to a complete ankylosis of the joint, might be, I would suggest not to operate or perform any invasive procedure and remain in this status instead. I cannot believe that by now, the hip is the source of his fierce spasticity but I'll appreciate any other suggestions.

Resumo

La malofta ekesto de koksa dislokiĝo ĉe juna malsanulo kun kronika paraplegio ekis multajn klinikajn demandojn: pri la eblaj kialoj kaj

diferencigaj diagnozoj de tiu ĉi situacio, eblaj kaj senhavaj kuracmetodoj kaj la preventado de eventualaj pliaj komplikakajoj.

References

- Ohry A, Melamed Y. Scuba diving. Arch Phys Med Rehabil. 1989;70(6):495.
- Ohry A. [Sports for the disabled and the rehabilitation physician]. Harefuah. 1984 ;107(3-4):95-7.
- Ohry A, Rozin R. Spinal cord injuries resulting from sport. The Israeli experience. Paraplegia. 1982 ;20(6):334-8
- Schwartz J, Sajina A, Neeb M, Fisher J, Katz-Luerer M, Meiner Z. Locomotor training using a robotic device in patients with subacute spinal cord injury. Spinal Cord. 2011 ;49(10):1062-7.
- Becker SW, Röhl K, Weidt F. Endoprosthesis in paraplegics with periarticular ossification of the hip. Spinal Cord. 2003 ;41(1):29-33.
- Avimadje AM, Pellieux S, Goupille P, Zerkak D, Valat JP, Fouquet B. Destructive hip disease complicating traumatic paraplegia. Joint Bone Spine. 2000;67(4):334-6.
- Weiss S, Grosswasser Z, Ohry A, Mizrahi Y, Orgrad T, Efer A Gazit E. Histocompatibility (HLA) antigen in heterotopic ossification - associated with neurological injury. J. Rheumatol. 1979; 6:88-91.
- Lortat-Jacob A, Lortat-Jacob S, Jouanin T, Beaufils P, Coignard S, Held JP, Bedoiseau M. Arthritis of the hip in paraplegic patients. Apropos of 8 cases. Rev Chir Orthop Reparatrice Appar Mot. 1984;70(5):383-8.
- Ohry A, Shemesh Y, Rozin R. [The problem of arthropathy and pathologic ossification in head and brain injured]. Harefuah. 1978 15;94(12):430-2.
- Graham GP, Dent CM, Evans PD, McKibbin B. Recurrent dislocation of the hip in adult paraplegics. Paraplegia. 1992 ;30(8):587-91.