Trauma Case Reports xxx (2017) xxx–xxx

Contents lists available at ScienceDirect

Trauma Case Reports

journal homepage: www.elsevier.com/locate/tcr

Case report

Femoral neck pseudoarthrosis in a polio patient treated with closed reduction and cell therapy

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ARTICLE INFO

Article history:

Accepted 3 January 2017
Available online xxxx

Keywords:
Pseudoarthrosis
Poliomyelitis
Cell therapy
Femoral neck

ABSTRACT

Poliomyelitis disease affects the anterior horns cells of the spinal cord and certain motor nuclei of the brain stem. Paralysis type is flaccid and asymmetrical and result in muscular imbalance. Due to this, in case of having a hip muscles involvement, degenerative or posttraumatic, total hip arthroplasty is normally contraindicated because of the excessive risk of hip dislocation. In cases of subcapital femoral neck fractures the femoral head vascularization is a main concern, and in cases of neglected fracture with pseudoarthrosis the vascular status to the head must be investigated prior to further decisions.

We report the case of a femoral neck fracture non-union after a missed femoral neck fracture in a polio affected leg treated with cannulated screws and percutaneous autologous injection of processed total nuclear cells (TNC) mixed with putty demineralized bone matrix.

Case report

We present a fifty-three-year-old woman with a history of diabetes, rheumatoid arthritis and poliomyelitis in her childhood. Her left lower limb was affected and had muscle weakness; she was an ambulatory patient and walked without aids and maintained a normal lifestyle.

Four months prior her first presentation she suffered from a fall from her own height. She attended a local emergency department because of left hip pain and inability to bear weight on her left leg. She described a sharp pain in the left hip while standing, which caused her to shift her weight to the right leg. She was examined and discharged from the emergency department. The patient was diagnosed as having a sprain; she was treated with non-steroidal anti-inflammatory drugs (NSAIDs) and was prescribed crutches for ambulating.

Two months later, the patient returned to the emergency department because of ongoing inability to walk due to pain in her hip and contra lateral knee. Physical examination revealed contra lateral knee effusion. Radiographs were not repeated, and the patient was discharged again with the diagnosis of rheumatoid arthralgia.

Four months after the initial injury, the patients presented to our clinic due to ongoing pain and inability to weight bare on the left leg. Examination showed left groin pain, tenderness, and diminution of active hip flexion. On radiographs, a displaced femoral neck fracture was obvious (Fig. 1). Computed tomography showed a nonunion of an intracapsular fracture of her neck of femur (Fig. 2).

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http://dx.doi.org/10.1016/j.tcr.2017.01.018

Please cite this article as: M.A. Codesido, et al., Femoral neck pseudoarthrosis in a polio patient treated with closed reduction..., Trauma Case Reports (2017), http://dx.doi.org/10.1016/j.tcr.2017.01.018

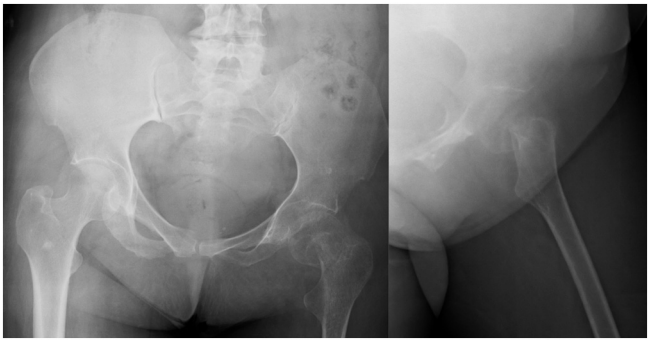

Fig. 1. An AP and LAT X-rays that show the displaced femoral neck fracture.

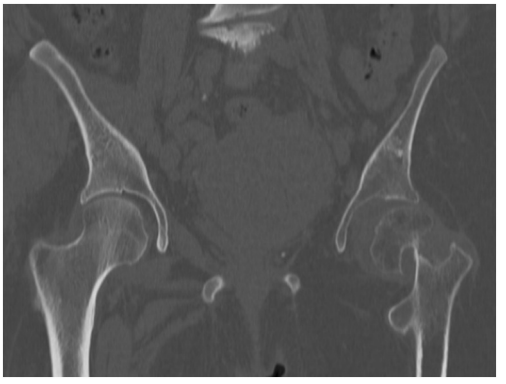

Fig. 2. CT coronal shows reabsorption of the border of the fracture.

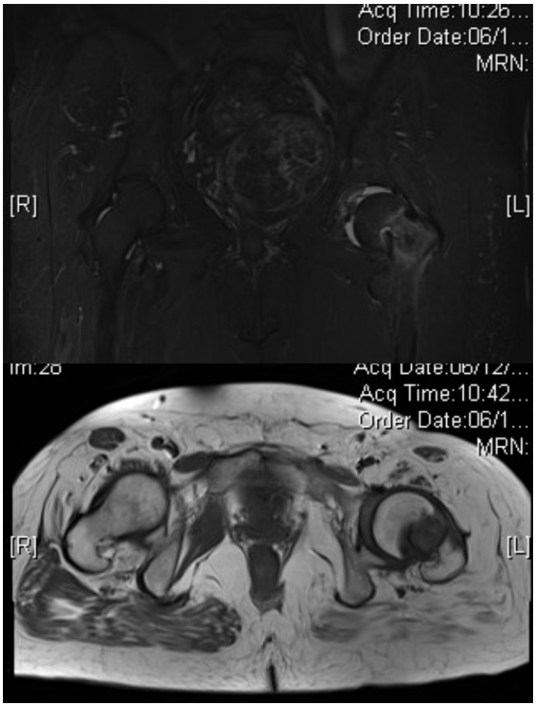

Fig. 3. a) T2 coronal MRI and T1 axial MRI that excluded the vascular compromised of the femoral head.

Please cite this article as: M.A. Codesido, et al., Femoral neck pseudoarthrosis in a polio patient treated with closed reduction..., Trauma Case Reports (2017), http://dx.doi.org/10.1016/j.tcr.2017.01.018