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Double-Hump Camel Sign: A Pathognomonic Manifestation of Pseudarthrosis of Patella

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ABSTRACT

Pseudarthrosis is a rare complication of patella fracture. An orthopedic surgeon may have less than 10 cases in life career. When two patellar fragments are in status of gap displacement, the pseudarthrosis can be recognized by Double-hump Camel Sign. Patient's knee is observed from lateral view. The gap between two fragments constitutes an image of double-hump camel. During knee flexion the gap becomes bigger, while knee extension the gap smaller. Figure 1. Double-hump Camel Sign is pathognomonic for the pseudarthrosis of patella.

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Introduction

Pseudarthrosis of Patella is a rare complication, especially when the two fragments are in the state of great separation. A gap between the two fragments creates a shape of Double-hump Camel which enables physician to access the clinical diagnosis.

Description

Patient's knee is observed from lateral side. Two patellar fragments are in severe separation displacement, a gap exists between two fragments. Bigger the gap is clearer Double-hump Camel Sign shows. Figure 1. Patient still can walk with unbalanced gait but cannot run, jump as normal as preinjury. Quadriceps muscle forces of the involved limb decrease, especially knee extension is clearly weak. Mere clinical manifestation of Double-hump Sign is sufficient to diagnose pseudarthrosis of patella. X-rays, however, is necessary to confirm diagnosis and show characteristics of patellar pseudarthrosis and nearby structures.



Figure 2: X-rays however necessary to confirm diagnosis and show detailed characteristics of pseudarthrosis and nearby structures

Discussion

Clinical examination is very important to diagnose a lesion of skeletal apparatus [1-4]. The patella is not exceptional, needs clinical manifestations and radiographic imaging for diagnosis [1-2]. Specially, in pathology of patellar pseudarthrosis, when displacement is in great separation, a gap between two fragments exists, bigger during knee flexion, creates an image of Double-hump Camel which enables the physician to diagnose with exactness. The sign is pathognomonic for patella pseudarthrosis. Of course, in any cases, a radiographic finding is always necessary to show more detailed involvements.

Conclusion

Double-hump Camel Sign is helpful for the diagnosis of patella pseudarthrosis. It is a relevant clinical finding which examiner should look for in all patellar fractures especially the old ones. The sign should be recognized as a contribution to the medical literature of orthopedic semiology.

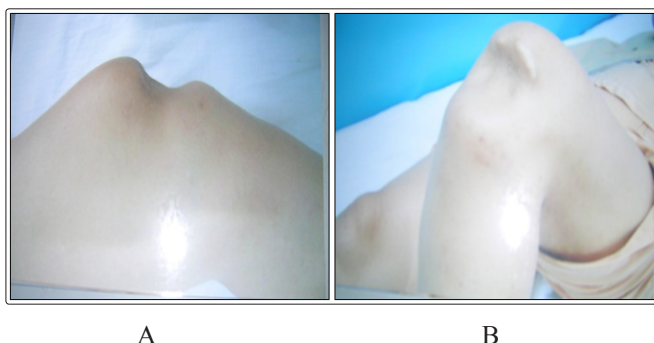


Figure 1: Patient's knee is observed from lateral view [A] and semi AP view [B]. The gap between two patellar fragments which are in great separation displacement constitutes an image of Double-hump Camel

References

1. Apley AG, Solomon L (1993) Apley's System of Orthopaedics and Fractures. Butterworth-Heinemann pp - 432-471.
2. Cave EF (1961) Delayed union and nonunion of Fractures. Fractures and other injuries. The Year Book Publishers, Inc., pp- 47-71.
3. Delp MH, Manning RT (1968) Major's physical diagnosis. W. B. Saunders Company, pp- 242-272.
4. Hoppenfeld S (1976) Physical examination of the spine and extremities. Appleton-Century-Crofts. Pp- 171-196.

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