Paleoacetabular Total Hip Arthroplasty Indicated For A Chronic Non Treated Hip Dislocation: Technical Challenges And Solutions Concerning A Case

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Abstract

Introduction: Unreduced hip dislocation for many weeks constitutes a severe traumatic lesion. Arthroplasty is indicated to help solve the complications which are related to the evolutions of such hips. However, muscular retractions and the difficulty in finding and working in the paleo-acetabulum make this procedure difficult. The objective of this work is to report a case of non-cemented total hip arthroplasty carried out in a young adult of 21 with a chronic untreated hip dislocation.

Case Report: We therefore report a 21 year old gendarmerie officer who presented with right hip pain, a shortening limping gait and a walking time of 10 minutes. He was a victim of a motor vehicle accident with a dash-board mechanism 18 months ago. He sustained a right hip trauma which was treated initially by traditional massage for 6 months. Right hip dislocation was later diagnosed in a hospital and surgical reduction was tried without success. Three months later he presented to us with a right leg length discrepancy of 5cm and a Trendelenburg gait. Right gluteus medius muscle power was 3/5. Pelvic x-ray (fig1) shows femoral head ascension, poor head implantation, a coxa magna, a coxavalga and a neo-acetabulum just above an empty paleo-acetabulum.

A non-cemented prosthesis with cup size of 48, a femoral head size of 48 and a stem size of 10 was planned, using the MOORE surgical approach which was used for the open reduction attempt (fig2). The per-operatory findings were: a necrotic femoral head (fig3) and a fibrosis-filled. The surgical dissection and implantation into the paleo-acetabulum was difficult and bloody, and required partial sectioning of the gluteus maximus. The piston test, the stability, rotations, and limb lengths were satisfactory. The post-operative findings were unremarkable and the control x-ray was good (fig4). The patient was autonomous at 16 months follow-up without leg length discrepancy.

Case Report: Chronic untreated traumatic hip dislocations are supposed to be treated with a total hip arthroplasty in order to permit such patients regain active social life. Reduction into the paleo-acetabulum may need partial sectioning or lengthening of the gluteus maximus without influencing the functional outcome of the hip.

Keywords: Chronic non treated hip dislocation, necrosis, coxarthrosis, total hip arthroplasty.
officer who presented with right hip pain, and a
toing time of 10 minutes associated with a
shortening limping gait. The past history
reveals that 18 months before consulting us he
was a victim of a motor vehicle accident with a
dash-board mechanism. He sustained a right
hip trauma which was treated initially by
traditional massage for 6 months. Without
getting better on this treatment, he consulted
in a hospital center where the diagnosis of right
hip dislocation was made. A surgical reduction
was then tried without success. Three months
after the failure of reduction he presented to us
with a right leg length discrepancy of 5cm and
atrendelenburg gait. The muscle power of the
right gluteus medius was evaluated to be 3/5.
The plain AP pelvic x-ray (fig1) shows femoral
head ascension, poor head implantation, a coxa
magina, a coxavalgia, a neo-acetabulum into
which the femoral head implants just above an
empty paleo-acetabulum.

The surgical dissection and implantation into the paleo-acetabulum was
difficult and bloody, and required partial
sectioning of the gluteus maximus. The piston
test, the stability, rotations, and limb lengths
were satisfactory. The post-operative findings
were unremarkable and the control x-ray was
good (fig4). The patient was autonomous at 16
months follow-up without leg length
discrepancy.

Discussion
Chronic untreated hip dislocations may be
missed in the context of multiple injuries [1].
Conversely, our patient turned to empirical
treatment followed by an unsuccessful
treatment approach which was
certainly carried out by less experienced
individuals. Femoral head necrosis and
coxarthrosis are inevitable in such chronic
situations [2, 3]. We opted for a total hip
replacement because of the 18 months
chronicity of the lesion. With such length of
time a continuous traction as recommended by
certain authors [4] couldn’t have been
effective. This choice of THA permitted us to
restore function and alleviate pain in this young
adult with high functional demand needed by
reason of his profession. We found out that we
are not the only ones who used this method
[5]. Certain authors recommend the use of
prosthesis with double mobility to prevent
dislocations caused by muscle retractions [6].
We recommend extreme care not to injure the
sciatic nerve during surgery because it is
usually beneath the fibrosis near the
acetabulum which resulted from anatomical
modifications. We equally recommend partial
sectioning of the tendon of the gluteus
maximus at the level of the quadratusfemoris
when longitudinal traction doesn’t permit
reduction into the paleo-acetabulum. This
procedure didn’t affect the functional outcome
of the hip.

Conclusion
Chronic untreated traumatic hip dislocations
are supposed to be treated with a total hip
arthroplasty in order to permit such patients
regain active social life. Reduction into the
paleo-acetabulum may need partial sectioning
or lengthening of the gluteus maximus without
influencing the functional outcome of the hip.

Clinical Message
Chronic untreated hip dislocations are rare
lesions which compromise the functioning of
the hip due to necrosis of the femoral head and
hip osteoarthritis. The presence of a
neoaacetabulum may lead to the mal
positioning of the total hip arthroplasty. It is
thus necessary to insert the prosthesis in the
paleoacetabulum while considering the
presence of muscle retraction.

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