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A New Effective Approach to the Hip (for Old Unreduced Dislocation)

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ABSTRACT

In Vietnam, Incidence of Old Unreduced Hip Dislocation may account for up to 20%. Old Dislocation is defined as older than 3 weeks not relocated. Inside the dislocated hip, develop many inflammatory tissues such as granulation, fibrous with injured a surrounding structure (capsule, ligaments, tendons, bony pieces etc...) which filled up the acetabulum, prevents the head to be relocated. Over effort to reduce closely an old hip dislocation risks fracture of neck or trochanteric femur. In this case, open reduction is almost mandatory. There are many approaches to access and relocate a dislocated hip, we propose a new one which enables surgeon to expose the acetabulum, to liberate the femoral head, reconstruct the defect of acetabulum and /or femoral head and relocate the hip. Skin incision in shape of S for the left hip, in shape of Z for the right hip, from iliac wing to trochanter, then along the femoral shaft. Figure1 Follow strictly on the bone of lateral iliac wing, go posteriorly will find out the acetabulum; determine the anterior border of Gluteus Medius, dissect the muscles toward greater trochanter, and get complete exposure of operative field. Femoral head is found out & liberated from surrounding tissue. Clear up the acetabulum, reconstruct the bony lesions. Relocate the femoral head in acetabulum, and stabilize with a K-wire. The hip is often immobilized with a Spica casting for > 3 weeks.

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Introduction

Hip dislocation is a serious injury in emergency traumatology, demands to reduce as soon as possible. However, in the developing countries like Vietnam, many hip dislocations come to see doctor so late, if later than 3 weeks, it is called Old Unreduced Dislocation. By then, inside the dislocated hip, develops a processing of reconstructive reactions: many kinds of cells, tissues, the damaged structures fill up the acetabulum. The torn capsule, ligaments may interpose and prevent the reduction. A fresh hip dislocation can be successfully relocated by closed reduction, but an Old Dislocation with the presence of inflammatory tissue, injured surrounding structures, closed methods almost fail to relocate, but risk of breaking the proximal femur. As a result, for an Old Unreduced Hip Dislocation, especially older than 3 weeks, open reduction is almost mandatory. There are many approaches to access an Old Unreduced Hip, this article introduces a new one, which facilitates to expose the acetabulum, to liberate the femoral head and relocate not difficultly the hip.

Description of New Approach to the Hip

Patient in lateral decubitus. Skin incision on iliac crest 3 – 4 cm, then from anterosuperior iliac spine to greater trochanter, then along the femur 2- 3 cm, So, has the shape of S for the left side; and the shape of Z for the right side. Figure1. Follow strictly on bone of lateral iliac wing, go posteriorly will find out the acetabulum. Figure2. Determine the anterior border of Gluteus Medius, dissect the muscles to greater trochanter and get complete exposure of operative field. Clear up the acetabulum, reconstruct anterior and/or posterior wall fractures; liberate the femoral head from surrounding structures; then relocate the head in acetabulum. To secure the reduction, a K- wire stabilizes the femur to the pelvis. Figure 3. In majority of cases, a hip Spica is usually applied to intensify the immobilization. Figure 4.

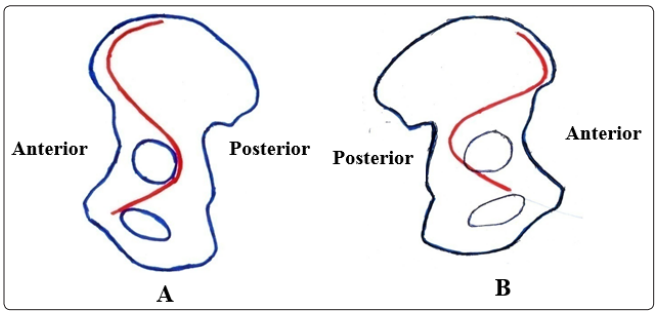

Figure 1: Skin incision on iliac crest 3-4cm, then from anterosuperior spine to greater trochanter, then along the femur 2-3cm, has the shape of S for the left side A, and the shape of Z for the right side B

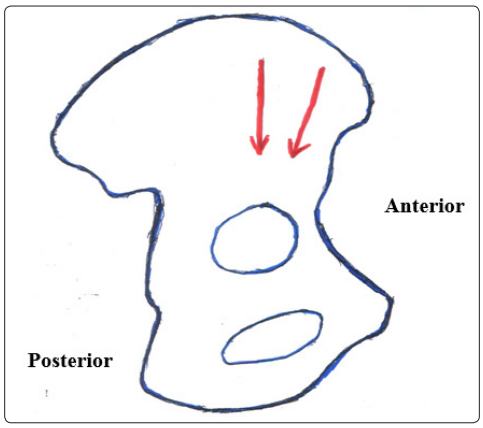

Figure 2: From the iliac crest incision, follow strictly on bone of lateral iliac wing, go posteriorly will find out the acetabulum

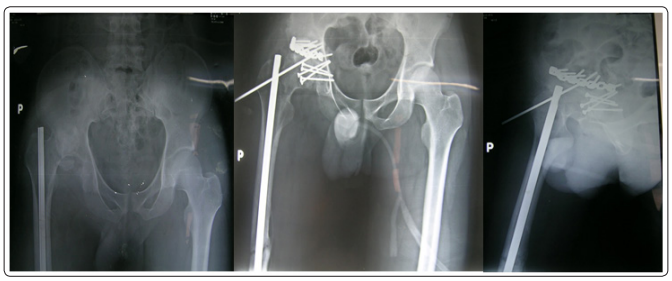

Figure 3: 32 year-old male, 6-month-old unreduced hip fracture-dislocation. Open reduction, reconstruction of posterior wall, stabilization of hip with a K-wire

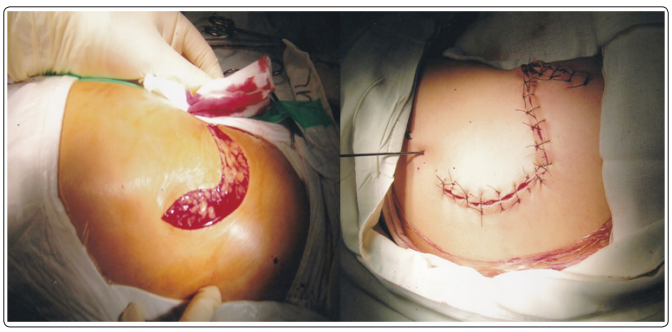

Figure 4: Closure of the wound

Discussion

Closed reduction to treat Old Unreduced Hip Dislocation is recommended to avoid because of many risks of iatrogenic femoral fractures. Open techniques require an extensive approach which is large enough to expose completely the acetabulum, and free the femoral head from the surrounding envelop. The acetabulum is usually covered up by broken bones, injured structures around hip including capsule, ligaments, tendons etc…The femoral head is outside acetabulum and incarcerated by a lot of injured elements which healed with many sequelae as adhesions and contractures. Some anatomic structures not involved but have a role in preventing the head to be relocated [1-4].

The key step to operate successfully an Old Unreduced Hip Dislocation is to find out the acetabulum which is usually hidden by many kind of tissues & structures. Older the dislocation is, more difficult to find out acetabulum. Furthermore, the location of acetabulum is not variable, it may be broken at the anterior or posterior wall even the bottom, but true acetabulum is consistently located. Someone suggests anterior approach for posterior dislocation and posterior approach for anterior dislocation, but to our experiences this new approach enables surgeon to find out easily the acetabulum regardless of dislocation is anterior or posterior. By incision on iliac crest, strictly on bone of lateral iliac wing, go posteriorly step by step will meet the acetabulum. With meticulous dissection, Gluteus Medius muscle is well protected, proximal femur is felt, determined and the head will be liberated from structural adhesions, available for reduction. This approach is especially safe, no need to explore the sciatic nerve and/or the external iliac artery. In some cases very ancient (older than one year or more), anatomical elements are so contracture, pie-cutting release of fascia lata and/or adductors are justified. Such a large-enough approach permits surgeon to recognize all anatomic structures, prepare well acetabulum, remove incarcerations to free femoral head and avoid iatrogenic fractures and other complications in such a so difficult operation [4] .Figure 5.

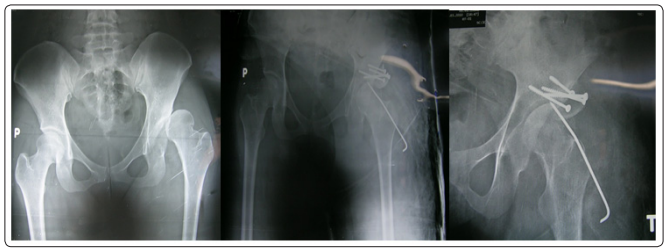

Figure 5: 22- year-old female, 10-year- old unreduced dislocation of left hip. Open reduction, reconstruction of Superior posterior wall, intensifying immobilization with K-wire and hip Spica

Conclusion

Relocating an Old Unreduced Hip Dislocation is a challenge in Traumatology. Closed reduction should not be used because of many risks leading to severe complications. Many approaches can be applied for the requirements of exposing acetabulum, clear-up, reconstruction; and then liberate the head from complex inflammatory tissue/adhesive structures. Furthermore the hip must be loose enough for relocation, consistently stable during postoperative recovery. For a safe & effective treatment for Old Unreduced Hip Dislocation, the new approach as above presentation should be considered, applied, and has a position in orthopedic literature.

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