

Coxa Vara Deformity with Subtrochanteric Valgus Osteotomy And Fixation – A Case Report

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INTRODUCTION

Coxa Vara deformity is a common complication of proximal femur fracture and is caused by non-union and malunion of intertrochanteric, subtrochanteric and femoral neck fractures. Andruszkow et al¹ reported that intertrochanteric fracture had highest percentage of deformity with 54% after conservative treatment and 12% after surgery.

Coxa Vara is defined as a neck shaft angle $<110^\circ$ and often associated with hip pain, lower limb length discrepancy and limping and seriously affects patients' quality of life.

REPORT:

Mr. RM, 38yo Malay gentleman with no known medical illness alleged motorbike skidded sustained pain over right hip. However, patient did not seek for any medical advice. After 6 months of trauma event, patient went to Emergency Department due to limping, difficulty of movement and pain over the right hip. Examination in orthopedic clinic shows finding of shortening of right lower limb about 4cm and the limb was internally rotated. We measured the neck shaft angle by X-ray examination and noted the difference in the angle between the injured limb and the healthy limb, about 110° and 140° respectively.

We decided for subtrochanteric valgus osteotomy with dynamic hip screw. Intraoperatively, patient was placed supine on a traction bed and lateral longitudinal skin incision was made. A guide wire was placed into the head of femur about 2cm below the tip of greater trochanter and a dynamic hip screw was installed. After the hip screw inserted, transverse subtrochanteric osteotomy was done below the lesser trochanteric. Then, plate was introduced into the hip screw and distal part of limb was pulled using traction bed to get the alignment. Throughout the procedure, the

patella was placed on neutral position in order to correct the internal rotation deformity of the lower limb.

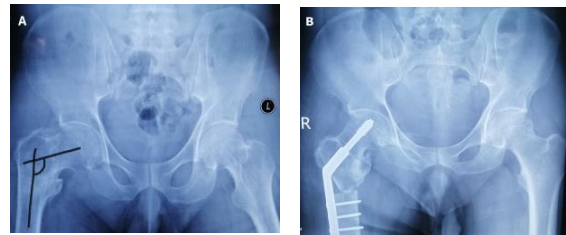


FIGURE A :
Pre operative Xray

FIGURE B :
Post operative Xray

Figure A showed coxa vara deformity with 110° of the neck shaft angle and Figure B showed the neck shaft angle of 135° .

Although the outcome of this surgery can be considered successful, proper pre operative planning is very important and, in this case, valgus osteotomy is more suitable for younger patients rather than total hip arthroplasty.²

CONCLUSION:

Subtrochanteric valgus osteotomy and dynamic hip screw showed a favorable clinical effect to treatment coxa vara after proximal femur fracture. It is simple and reliable to be used in the clinical setting.

REFERENCES:

- 1.Andruszkow H, Frink M et al. Tip apex distance, hip screw placement, and neck shaft angle as risk factors for cut-out failure. *Int. Orthopedic Trauma* 2012; page 2347.
- 2.Vidyadhara S, Rao SK, Pandian S, Gnanadoss J. Closing lateral wedge valgus osteotomy with dynamic hip screw for varus nonunion of pertrochanteric fracture: can restoration of biomechanics and stabilization alone heal? *Journal Orthopedic Trauma Surgery* 2009; page827.