

: 2000 7 2002 6 45
 : 116 524 ml 1.4 pint, 1.1 pint
 2 가 4 가
 가 2 , 1 가
 : 가
 :

Treatment of Femoral Intertrochanteric Fracture with Proximal Femoral Nail

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Purpose: To evaluate the usefulness of proximal femoral nail in the treatment of intertrochanteric fracture.

Material and Methods: The authors investigated the classification of fracture, operation time, the amount of intraoperative and postoperative bleeding, the amount of transfusion, postoperative ambulation status, bone union time and the complication among 45 cases who were treated with proximal femoral nail from Jan. 2001 to June 2002.

Results: The mean operation time was 116 minutes, and the amount of bleeding was 524 ml in average. The amount of intraoperative transfusion was 1.4 pints and that of postoperative transfusion was 1.1 pints. The complications were the intraoperative penetration of antirotational screw through the femoral neck in 2 cases, separation of the fracture fragment while inserting the nail in 4 cases, irritation of skin by retro-pulsion of antirotation screw in 2 cases, and penetration of antirotation screw through femoral head in 1 case.

Conclusion: Proximal femoral nail was effective for the treatment of intertrochanteric fracture, however the surgeon should be careful about collision of the insertion handle against pelvis when the fracture line coincides with the insertion point of nail, especially in obese patients.

Key Words: Femur, Intertrochanteric fracture, Proximal femoral nail

(Proximal Femoral Nail) 가 가 가 가

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10,13,14) 45 awl 가 .
 10~15 mm 가 3
 2000 7 2002 11 ~7 가
 45 가 . 가 12 가 33 .
 45 99 73 . 60
 12 36 21 . 245 116 .
 가 41 가 2 , 가 2
 . 28 15 ,
 8 , 5 , 1 . AO- 가
 Müller A1 18 A2 15 A3 12 .
 . 4
 1
 (Fig. 1) 1 가
 가
 10~15 (Fig. 2) 2
 5 cm 5~8 cm
 17 mm (Fig. 3).
 awl 30 ml 1,500 ml 524 ml .
 가 5 pint



Fig. 1. The fracture was fixed as the displaced state. Bone union was obtained eventually.

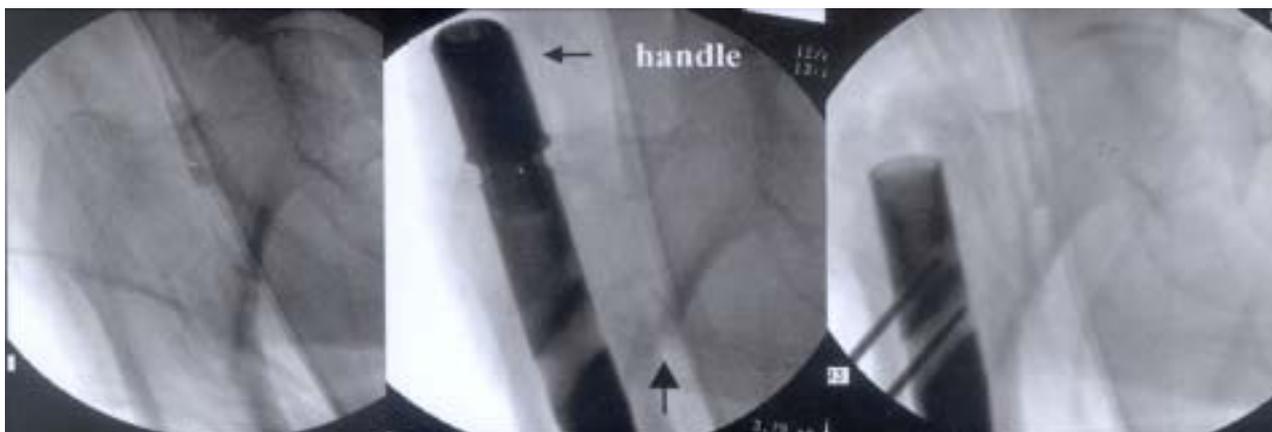


Fig. 2. The fracture fragment displaced as the nail goes inside. Optimal reduction was attained again after the removal of the insertion handle.



Fig. 3. The fracture fragment displaced as the nail goes inside. So the so the fracture was fixed with compression hip screw.

6 , 가
 Class 가 Good
 Class가 1 Moderate, 2
 Poor 가 Good Moderate
 Moderate, 3 Poor 11 Good, 31
 (93%) 2 42
 가 (Fig. 4)
 2 (Fig. 5) 1
 3
 가

1.4 pint
 7 pint
 1.1 pint 가
 8 24 18.2
 1
 가
 Clawson⁴⁾ 4 가 Class 1 가
 , Class 2 1,7,8,11)
 가 , Class 3 가 ,
 Class 4 , 가 가

가
 가
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- chanical failure after internal fixation. *J Bone Joint Surg*, 72-B: 26-31, 1990.
- 6) **Den HBD, Bartal E and Cooke F:** Treatment of the unstable intertrochanteric fracture. Effect of the placement of the screw, its angle of insertion and osteotomy. *J Bone Joint Surg*, 73-1: 726-733, 1991.
 - 7) **Forthomme JP, Costenoble V, Soete P and Docquier J:** Treatment of trochanteric fractures of the femur using the gamma nail. *Acta Orthop Belg*, 59: 22-29, 1993.
 - 8) **Goldhagen PR, O'Connor DR, Schwarze D and Schwarz E:** A prospective comparative study of the compression hip screw and the gamma nail. *J Orthop Trauma*, 8: 367-372, 1994.
 - 9) **Kyle RF, Gustilo RB and Premer RF:** Analysis of six hundred and twenty-two intertrochanteric hip fractures: a retrospective and prospective study. *J Bone Joint Surg*, 61-A: 216-221, 1979.
 - 10) **Lee SY, Park IH, Song KW, Shin SI, Lee JY and Cha JH:** The result of proximal femoral nailing (PFN) for unstable femoral peritrochanteric fracture. *J of Korean Society of Fracture*, 16: 143-147, 2003.
 - 11) **Leung KS, Chen CM and Shen WY:** Multicenter trial of modified Gamma nail in east Asia. *Clin Orthop*, 323: 146-154, 1996.
 - 12) **Min BW and Nam SY:** Complications in patient with peritrochanteric fractures treated with a gamma Asia-Pacific locking nail. *J of Korean Orthop Assoc*, 36: 429-435, 2001.
 - 13) **Moon DH, Choi JS, Kim GB, Kim JW and Kim KT:** Treatment of unstable intertrochanteric femoral fracture with the AO/ASIF proximal femoral nail (PFN). *J of Korean Society of Fracture*, 16: 136-142, 2003.
 - 14) **Shin DK, Kwun KW, Kim SK, Lee SW, Chio CH and Kim K:** Proximal femoral nail (PFN) for femur intertrochanteric fracture. *J of Korean Society of Fracture*, 15: 328-335, 2002.
 - 15) **Simmmermacher RKJ, Bosch AM and Werken CV:** The AO/ASIF-proximal femoral nail (PFN): a new device for the treatment of unstable proximal femoral fractures. *Injury*, 30: 327-332, 1999.
 - 16) **Sung YB, Nam CH, Ahn JK, Sohn YJ, Chung HJ and Kim JH:** A comparative study between the proximal femoral nail and dynamic hip screw for intertrochanteric fracture. *J of Korean Hip Soc*, 14: 208-215, 2002.
 - 17) **Whitelaw GP, Segal D, Sansone CF, Ober NS and Hadley N:** Unstable intertrochanteric/subtrochanteric fractures of the femur. *Clin Orthop*, 252: 238-245, 1990.
 - 18) **Wolfgang GL, Bryant MH and Oneill JP:** Treatment of intertrochanteric fracture of the femur using sliding screw plate fixation. *Clin Orthop*, 163: 148-158, 1982.
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