

. .

:

: 1997 2000
 18 . 2 5.4 3 ,
 54.4 . 12 , 3 ,
 2 1 .
 : 3 95%
 5% . 5 mm 가 1
 1 . 가 1
 :
 ,
 .
 : , ,

13)

가 가 10,17) , 1,8) ,
 2,9,19) , Wagner 7,21) ,
 가 4)
 가

:

194

2

가

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Paprosky^{18,22)}

(

1997 5 2000 4) 2 , (

(Depuy, Warsaw, IN,) 5 , -A (4 cm

USA) 2 가) 8 , -B (4 cm

가 18 가) 3 ,

34 (24~64) , (가) .

54.4 (32~77) , 가 13 , Merle

가 5 . 166.4 cm(156~180 d 'Aubigne(12 points scale) ^{12,14)}

cm), 65.2 kg(40~84 kg) . 가 (thigh

(16 pain)

), (1) , (1) . (stability) Engh ⁵⁾

가 6 , (bony stable),

가 12 . (fibrous stable), (unstable)

12 (67%),

3 (17%), 2 (11%) (subsidence) collar

1 (5%) .

14 , (shoulder)

4 (stress-shielding) Moreland

(reamer) Morenó⁶⁾ minimal(

0.5 mm), moderate(

), severe()

4~6 cm minimal(

), moderate(

), severe(¹⁶⁾

)

8

6 straight (1) , 7 4.7

calcar (1) , 8 straight (3) , 8 curved (5 10.1

), 10 straight (2) , 10 curved (6) Paprosky 5.2 10.6 ,

10.5 mm(1) , 12 mm(1) , 13.5 4.8 10.1 , -A 4.1 9.5 , -B

mm(5) , 15 mm(2) , 16.5 mm(2) , 18 4.0 9.4

mm(7) .

가 14 4 .

structural allo- 3

graft 가 5 .

(Fig. 1), 가 6 (stability) 17 (95%)

1 (5%)



Fig. 1. (A) Preoperative radiograph shows periprosthetic fracture with an extensive osteolysis around the stem. (B) Postoperative radiograph shows an excellent fixation with an extensively porous-coated stem and cortical strut allograft. (C) Radiograph obtained 3 years postoperatively shows a consolidation and union of the periprosthetic fracture.

1 5.4 mm

(subsidence) 2 mm

가 6 (33.3%)

5 mm 1

1

Moreland Moreno ¹⁶⁾

18 17 minimal 1

moderate

minimal(11), moderate(6), severe(1)

가

가 가

(Fig. 2).

straight 10 inch

1

structural allograft

(Fig. 3),

structural allograft

1

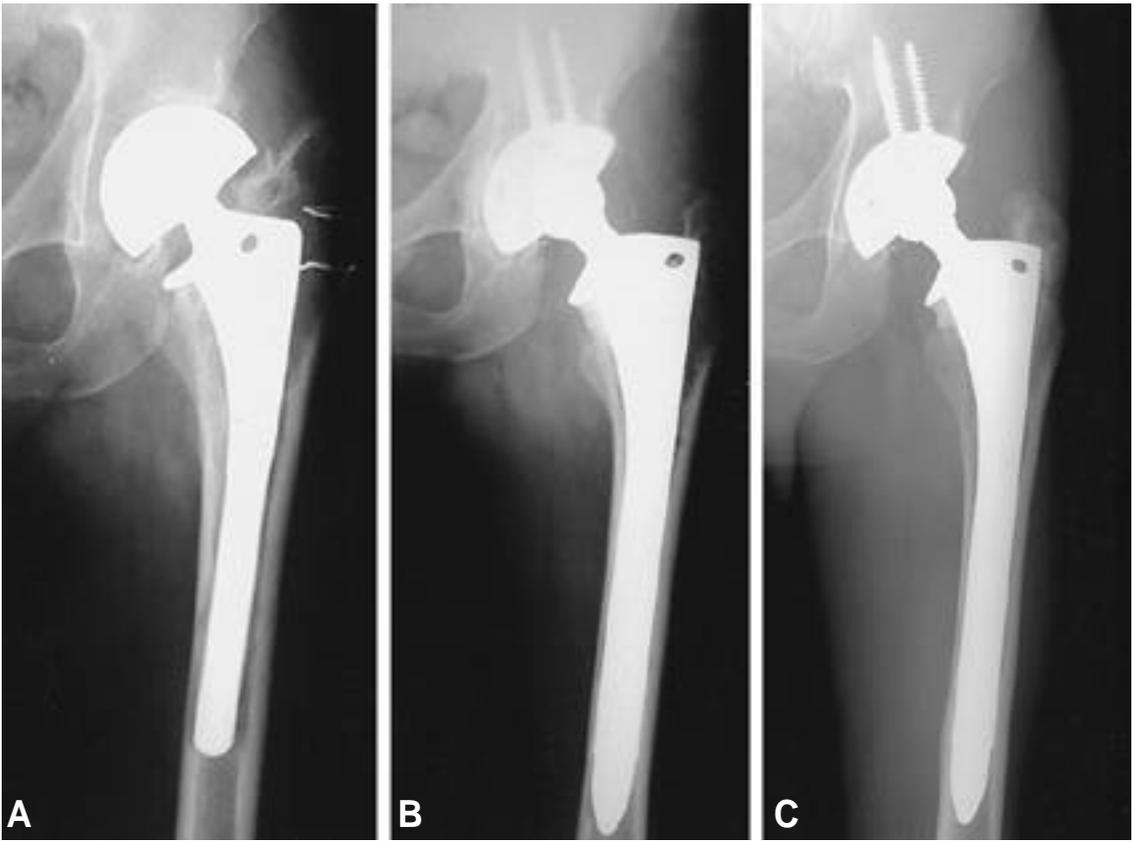


Fig. 2. (A) Preoperative radiograph shows diffuse osteolysis around the femoral stem. (B) Postoperative radiograph reveals an excellent fixation of the stem with bypassing the osteolytic lesion. (C) Postoperative 4 years radiograph show a healing of the osteolytic lesion.

3, 12, 16, 17),
 8, 16, 19),
 3 95% 1), (modu-
 5% lar stem)
 . 가
 , 2, 9, 16, 19) 가
 (impaction graft)⁴⁾ 가
 가 . 가
 12, 16). Wagner
 interdigitation



Fig. 3. (A) Cortical perforation during the insertion of straight femoral stem is found during operation. (B) The perforation is treated with a cortical strut graft augmentation and circumferential wires. (C) Postoperative 2 years radiograph shows a healing of the perforation.

4.7) (subsidence) , mm
 11) .

Moreland Bernstein⁵⁾ 2.9%, Lawrence 가
 12) 6.9% 가 16) .

4~6 cm 가 15,16),
 (54.4),
 가 1 ,
 1

13, 15, 18, 22) 18
 1 가 (subsidence) 5.4 mm mm가 가

15)

1

1

가

12, 15, 16, 18, 20)

10

curved

1 structural allograft

Paprosky ¹⁸⁾

Paprosky

cement

가

Paprosky

Paprosky

(subsidence)

(impaction allografting)⁴⁾

thetic composite ⁶⁾

allograft-pros

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Revision Hip Arthroplasty with Extensively Porous-Coated Femoral Stem

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Purpose: To report the outcomes of extensively porous-coated femoral stems based on diaphyseal fixation due to extensive bone loss and osteoporosis of the proximal femur in revision total hip arthroplasty.

Materials and Methods: Eighteen cementless femoral revision surgeries, with extensively porous-coated stems, performed between 1997 and 2000, were retrospectively reviewed. The follow ups ranged from 2 to 5.4 years, with an average of 3 years. The average age at surgery was 54.4 years. The reasons for the revisions were aseptic loosening in 12 hips, periprosthetic fracture in 3, progressive osteolysis in 2 and septic loosening in 1.

Results: 3 patients had minimal thigh pain. Radiographical evidence of a bone ingrown stem was present in 95% of the hips. 5% of the hips were stable fibrous fixations. Stem subsidence of more than 5mm was noticed in one hip, but without further progression after 1 year. Moderate stress-shielding was noticed in one hip. To date, no significant wear or osteolysis has been observed.

Conclusion: An extensively porous-coated revision stem seems to be a reasonable choice in the presence of proximal femoral bone loss. However, the concerns relating to the incidences of thigh pain, stress shielding, and difficulties in re-revisions, will require a longer term follow up.

Key Words: Total hip replacement, Revision, Extensively porous-coated femoral stem