

=Abstract=

A case of slipped capital femoral epiphysis developed during growth hormone treatment

Jung Eun Kim, M.D., Young Il Choi, M.D., Chang Young Ha, M.D.,
Soo-Jin Lee, M.D., Yoon-Sok Chung, M.D., Kwan Woo Lee, M.D.,
Hyeon-Man Kim, M.D., Hyon Ju Kim, M.D.* and Jae In Ahn, M.D.†

Departments of Endocrinology & Metabolism, Medical Genetics, and Orthopedic Surgery†,
Ajou University School of Medicine, Suwon, Korea*

Slipped capital femoral epiphysis (SCFE) is the most common orthopedic hip disorder occurring in adolescence. In this condition, the femoral head (epiphysis) displaces, or slips on the femoral neck through the region of the growth plate. This condition can occur only before the epiphyseal plate closes. The exact etiology is unknown, although it has been associated with obesity, mechanical abnormalities, physeal abnormalities, endocrine disturbances (hypothyroidism, growth hormone deficiency, hypogonadism).

Interestingly, SCFE was observed in growth hormone deficiency and in patients treated with growth hormone. We report a case of an adolescent male with glycogen storage disease Ia and growth hormone deficiency who developed SCFE during treatment with recombinant human growth hormone.

A 17-year-old male was admitted for pain of left hip which was exacerbated by walking 15 days ago. He was diagnosed glycogen storage disease Ia and growth hormone deficiency 2 years ago and treated growth hormone therapy with recombinant human growth hormone at the dose of 2 unit/day. The diagnosis of SCFE was confirmed radiologically. From the time of admission, he received skin traction on the left hip joint and stopped to inject growth hormone and treated surgically with internal fixation of the epiphysis with use of 3-cannulated screw. The patient is followed at out-patient clinic without postoperative complication.(Korean J Med 60:589-592, 2001)

Key Words : Epiphyses; Slipped disk; Somatotropin

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(Slipped capital femoral epiphy-

sis, SCFE)

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E-mail : yschung@madang.ajou.ac.kr

recombinant human growth hormone
 가
 Ia
 : , , 17
 :
 : 17 2 Ia
 1 1 2
 15
 : 2
 2.8kg . 1998
 Ia
 가 :
 : 120.0 cm, 23.7 kg,
 120/80 mmHg, 90 / , 20 / ,
 36.5
 8cm
 (Tanner stage I).
 : 8.7 g/dL,
 24.8%, 400,000/uL, 6400/uL,
 SG 1.015, pH 7.5, protein 2+, glucose -,
 ketone -, blood -, urobilinogen 0.1, bilirubin - ,
 glucose 85 mg/dL, BUN 16.8 mg/dL,
 Cr 0.6 mg/dL, Na 138 mMol/L, K 4.5 mMol/L, Cl 96
 mMol/L, calcium 10.3 mg/dL, inorganic phosphorus

116 U/L, uric acid 5.4 mg/dL, total protein 8.3 g/dL,
 albumin 4.6 g/dL, alkaline phosphatase 116 U/L, ALT
 107 U/L, AST 123 U/L, cholesterol 304 mg/dL,
 triglyceride 1260 mg/dL, HDL cholesterol 47 mg/dL,
 lactic acid 5.9 mMol/L (: 0.7-2.0 mMol/L) ,
 PT 11 sec, PTT 42 sec,
 HBs , anti-HBS , anti-HBc
 T₃ 159
 ng/dL, T₄ 12.2 μg/dL, FT₄ 1.17 ng/dL, TSH 2.29 μ
 IU/mL .
 : X
 (both hip AP, frog leg position)
 (Figure 1). (bone scan)

(uptake)가 가



Figure 1. In frog leg view, the slipped capital femoral epiphysis was noted in the left hip.

:
 allopurinol NaHCO₃
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 . 3 16
 3
 가
 가

Hagglund ¹⁰⁾
 21%
 , 60%
 가 (40%)
 (25%),
 (35%) ³⁾
 가 primary endocrine (14%)
 disorder 28 11 (39%)
 가 . 153 2
 , 59%¹²⁾,
 55%¹⁰⁾
³⁾ Blethen ⁴⁾ idiopathic 12- 18
 short stature
 2 ¹³⁾ Wilson ⁹⁾
 bilateral pinning
 hypophysectomized rat prophylactic pinning 13.7%
⁵⁾, recombinant human growth hormone , Riley ¹⁵⁾ 40%
 unilateral
⁶⁾ prophylactic pinning
 (epiphyseal growth plate)
 resting, proliferative, hypertrophied zone, calcified zone
 zone , hypertrophied zone metaphysis provisional calcification zone
 junction . -I ,
 가
 hypertrophic zone 가 ,
⁵⁾ 1950 Harris ^{16, 17)} 가
 rat
 (shearing force) ¹⁸⁾ ¹⁹⁾
⁴⁾ Ia
 Semple Goldschmidt
 가 ⁷⁾ 가
 Duncan ¹⁾ 가
 가 uncom-
 plicated
 Klein ⁸⁾ 20-41%, Wilson ⁹⁾ 17
 25% Ia 1
 가

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