

Hip physiolyis

Bilaterality in 62 cases followed for 20 years

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The frequency of bilateral physiolyis colli femoris was evaluated in 62 patients. At first admission, 5 patients had a bilateral slipping. Further, 9 patients had slipping diagnosed in the contralateral hip during adolescence 1–3 years after the primary operation. At the follow-up examination 22 years after the primary operation, radiographs showed bilateral sequelae of slipping in 30 of 62 patients. Of the nine slips diagnosed later during adolescence, one showed mild and two severe arthrosis. Among the 16 slips diagnosed at follow-up, mild arthrosis was found in four hips. We recommend bilateral pinning at first admission in all patients with a slipped capital femoral epiphysis.

The reported incidence of bilateral slipped capital femoral epiphysis differs from 5 to 80 percent (Hägglund et al. 1988) according to the time of recording: viz., at primary admission, at routine examinations during adolescence, or at follow-up after completion of growth.

We analyzed the frequency of bilateral slipping and arthrosis among 62 cases of physiolyis primarily treated a median of 22 years before examination.

Patients and methods

Seventy-nine patients were operated on for slipped capital epiphysis between 1960 and 1979 at our hospital. Seventeen patients were lost to follow-up, 5 patients could not be traced, and 12 refused to participate. The latter 12 were contacted by telephone, and none had any complaints regarding their hips. The remaining 62 patients (11 females and 51 males) were reexamined a median of 22 (8–28) years after the primary operation. The median age at follow-up was 36 (22–44) years.

Fifteen patients were operated on on the right side only and 33 on the left side only. Fourteen patients were operated on bilaterally; 5 at the primary admission and 9, 1–3 years after the first operation.

All but three hips were treated with traction for 1–2 days followed by pinning with Kirchner wires with no further attempt at reduction. One hip was treated with femoral neck osteotomy, one with closed reduction under anesthesia followed by pinning with Kirchner wires, and one was treated with Johanson's nailing.

The radiographic examination included antero-posterior and Lauenstein projections of both hips. Arthrosis was graded according to Ahlbäck (1968) and slipping according to Bianco (1966). The hips not operated on were evaluated for tilt deformity or buttressing at the level of the epiphyseal reminiscence as a sequel of physiolyis (Murray and Jacobsen 1977). On the Lauenstein projections, the calcar femorale was used to measure the angulation of the femoral head (Hansson et al. 1987).

Results

At the primary admission, the slipping of the femoral head was mild in 52 hips, moderate in 12, and severe in three. Among the 9 patients with an operation on the contralateral hip later in adolescence, the slipping was mild in seven hips and severe in two hips.

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Table 1. Slipping, arthrosis, and angular deviation in 62 cases of hip physioliysis

	n	Slipping				Arthrosis				Angular deviation (degrees)
		None	Mild	Moderate	Severe	0	1	2	3	
Primarily operated on	67		52	12	3	33	27	7		18 (0-50)
Operated on later in adolescence	9		7	0	2	6	1	2		16 (3-33)
Diagnosed at follow-up	16	16				12	4			10 (3-26)
No signs of physioliysis	32					32				3 (0-9)

Of the 67 hips operated on at the primary admission, 33 had no signs of arthrosis, 27 had mild arthrosis, and seven had moderate arthrosis (Table 1). Of the nine hips operated on later during adolescence, one had mild and two moderate arthrosis. Radiographs at follow-up showed signs of slipping in 16 of the not previously operated on hips. Among these 16 hips, four manifested mild arthrosis.

The findings at the follow-up examination leads to an overall incidence of bilateral slipped femoral epiphysis of 30/62 in our series. Of the 32 hips with no signs of slipping, there were none with signs of arthrosis.

The calcar femorale was not sufficiently visualized in seven operated on hips. Among the 61 hips operated on at the primary admission with measurable angular deviation (Table 1), nine had angles below 10° (3 SD). In two of eight hips operated on later in adolescence and in six diagnosed at follow-up, the angle was less than 10°.

Discussion

The frequency of bilateral slips at the primary admission in our series corresponds well with other series (Wilson et al. 1965, Sørensen 1968, Hägglund et al. 1988), who reported frequencies of 9-13 percent. Klein et al. (1953) found bilateral slips in 25/61 cases, 17 of which appeared later in adolescence, and Hägglund et al. (1988) found bilaterality in 61 percent and arthrosis in 23 percent among the hips diagnosed late in adolescence or at follow-up.

Wilson et al. (1965) stressed that the contralateral slipping in 8 of 17 patients were painless. In our series, two of the late contralateral slips were acute with severe displacement. Our findings support the

recommendation of Hansson et al. (1987) that a bilateral operation should be performed also in patients who present with unilateral disease to prevent slipping on the contralateral side and development of secondary arthrosis.

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