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ATYPICAL HIP CLICK IN THE NEWBORN

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If dislocation of the hip is diagnosed by Ortolani's test in a newborn, a normal hip will be obtained by reduction and fixation in a plaster cast in the Lorenz I position (frog position) for 3 months (Gregersen 1969, Lauritzen 1971). Therefore, an exact diagnosis has to be made within the first week of life. If the Ortolani test is positive and reproducible, there is no doubt about the diagnosis and the treatment. But if the test reveals laxity or the so-called dry atypical click, there will be doubt as to whether treatment is necessary. The dry hip click is heard in Ortolani's test and is felt as a dry crunching or crepitation, but the hip is stable and not dislocatable and a certain laxity may be present.

MATERIAL

In the Department of Orthopaedic Surgery O, Odense, the number of neonates treated for congenital dislocation of the hip up to 1965 was twice that expected according to the general incidence of this condition.

On reviewing the case records it was found that about half the treated infants had in fact had the so-called dry hip click. After 1965, newborns with dry hip clicks were not treated, but followed clinically. At the same time, the prospective study to be reported below was started.

The material comprises all newborns referred from the Obstetrical Department of the Odense Hospital with suspected hip disease during the 2-year period May 1965 to 1967. During this period 5060 infants were born who were examined by a midwife and a doctor immediately after birth. Infants who did not have normal hips were examined in the Department of Orthopaedic Surgery O within the first 4 days of life. This disclosed 17 with dislocation of the hip and a positive Ortolani test (0.3 per cent) and 99 with dry hip click but stable hips - 2 per cent, or six times the number of those with dislocations.

Among the patients with dry hip clicks the distribution by sex and side affected is largely the same as for the patients with congenital dislocation of the hip, *viz.* twice as many girls as boys and twice as many left-sided as right-sided.

The 99 infants with dry hip clicks were seen once weekly at first and after the

first month once every other week until the hip click disappeared, but they received no treatment. In 60 per cent the click disappeared in the first month of life, and after the second month only 10 per cent still had clicks. At the age of 1 year only one patient still had the click.

The incidence of dry hip clicks immediately after birth may be expected to exceed 2 per cent, as some clicks may have disappeared within the first 4 days of life, i. e. before the examination in the orthopaedic department.

*Table 1. Dry hip click in 99 newborns.
Sex and side affected.*

	Girls	Boys
Right-sided	12	5
Left-sided	38	17
Bilateral	17	10
	67	32 Total 99 pts.

RESULTS

After the infants could walk, 97 had a clinical and radiographic examination. One patient was examined at 7 months and one could not be traced. All the infants walked at the normal time, as a rule shortly before the age of 1 year.

All those examined showed normal hip joints with free mobility, without instability, laxity, or click except for one patient who still had a dry click. Both legs were of the same length, there was no muscular atrophy of the buttocks or thighs, and walking was normal. Radiologically all the hips were normal.

DISCUSSION

Parkkulainen & Solonen (1959) assumed that the dry click was due to a flattened or oval-sectioned ligamentum teres rotating under the femoral head in the Ortolani test. They called the condition "crepitation of ligamentous origin". Barlow (1966) felt that fascial strands and tendons sliding over each other in the region of the greater trochanter were responsible. According to Finlay et al. (1967) the "ligamentous click" was due to the ligamentum teres, and they emphasized that the click was so common that it must be considered within the range of normal. In their opinion, therefore, the term click ought to be aban-

done, so that the phenomenon should not be confused with Ortolani's click.

On the basis of our investigations it is not possible to decide whether the dry hip click is a sequel of congenital dislocation of the hip or merely a chance phenomenon in an otherwise normal hip. However, the distribution by sex and side affected supports the suspicion that it might be a sequel. This is indicated by the fact that expert examiners in our Department have found, during the past 3-4 years, 5 cases with congenital dislocation by the Ortolani test, whereas the test was negative a few days later when, after shedding the umbilicus, the patients were to be fitted with a plaster cast. Instead, the same examiner found merely a dry click.

In an editorial in *Ugeskrift for Læger* (March 1970) it was emphasized that in the event of the slightest suspicion of dislocation of the hip, the patient should be placed in a plaster cast, as a few months' treatment in a cast is harmless, even though 5-10 times too many are treated. Hierton & James (1968) have pointed out that a large part of the splinting is unnecessary, stating that for every child saved from frank dislocation they probably had fifteen to twenty others splinted. Felländer et al. (1968) did not splint 39 out of 82 infants with an Ortolani click, as this was demonstrable only on subluxation provocation. 5-7 years later all 39 children had normal hips.

Among 150 infants with hip dysplasia (acetabular angle greater than 30°), but without dislocation, Allen (1962) found, following treatment by plaster cast in the Lorenz I position, ischaemic necrosis of the femoral head in 14. Finlay et al. (1967) had no such cases, but stressed that in the event of dry click, reduced abduction, or laxity, splinting was unnecessary and caused the parents anxiety and concern.

Jansen & Reimann (1970), however, state that clinically doubtful cases with uncharacteristic sounds during the manoeuvres should be kept in a cast for 6 weeks as a matter of principle.

Our investigation has demonstrated that plaster casts in patients with dry hip clicks are unnecessary, as the hips become normal without treatment.

S U M M A R Y

Among 5060 newborns from a 2-year period, 17 were found to have dislocation of the hip and a positive Ortolani test, whereas 99 had atypical dry clicks. These latter 99 patients received no treatment, and

the click had disappeared in 90 per cent at the end of 2 months. The distribution by sex and side affected among these 99 infants was largely the same as in those with congenital dislocation of the hip.

On clinical and radiographic examination of 98 of the patients at the age of 1 year, when they could walk, all hips were found to be normal.

It is concluded that plaster casts in patients with dry hip clicks are unnecessary, as the click disappears spontaneously and leaves the hip normal. The infants should be followed by a specialist until the click has disappeared.

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