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Håberg Ø, Foss O, Lian ØB, Holen KJ. Is foot deformity associated with developmental dysplasia of the hip? Results after examination of 60,844 newborns. *Bone Joint J*. 2020;102-B(11):1582-1586.

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Author's reply:

Sir,

We thank Professor Paton for his interest in our recent paper.[1]

We agree that both false positive and false negative tests are a general problem in newborns with developmental dysplasia of the hip (DDH). Ultrasonographic hip examination was supposed to eradicate these problems but this, unfortunately, has not happened.

However, we do not believe that the number of false positives is of practical concern in our population. We have used the same ultrasound screening method since 1986 and have a stable incidence of 8/100 treated for DDH: the number of late-detected children with DDH is low, below 0.5/1000. We therefore find our screening programme reliable for the screening of newborns.

Since our results were from a newborn population, we are well aware that many of the unstable hips were not really dysplastic. We have, in a previous paper,[2] shown that more than 50% of all newborns with neonatal hip instability become stable spontaneously within two weeks. Nonetheless, during follow-up nearly 10% of these untreated newborns developed persisting hip dysplasia. They were all treated successfully in an abduction splint. We did not have the resources to continue these delayed examinations over this study period, but started delayed primary examination and treatment in 2015.

In the paper by Irha et al,[3] 50 infants with clinically suspected DDH were submitted for ultrasound hip examination. They were further divided in two groups; Group 1 under three months of age, and Group 2 between three and 12 months of age. Both groups were examined by ultrasound using the Graf and the Morin methods. The hips of the 50 patients were divided into groups according to the classification for both methods. They concluded that the advantage of the Graf method stems from its better applicability to both screening and diagnosis, and that this appeared to be indisputable. We think that one should be careful to interpret their statistics with that many groups and few patients. In addition, as pointed out by Ihra et al, our method of ultrasound examination is not directly comparable with the Morin method. The population studied by Irha et al was also half-and-

half boys and girls and therefore not directly comparable with our population; this due to the fact that most of our children are girls, and boys tend to have increased femoral head coverage (FHC).

Our ultrasound screening method is a modification of the Morin method as we only use our method for measuring the FHC until a significant ossification centre is present in the femoral head. In children with a visible ossification centre, we measure the lateralization of the ossification centre in relation to the lateral bony rim of the acetabulum.[4]. This makes the conclusions in the Ihra study even more difficult to correlate to our method and study.

Once again, we thank Prof. Paton for his feedback: we agree that larger studies are desirable for the safer interpretation of the spectrum of DDH.

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1. **Håberg Ø, Foss O, Lian ØB, Holen KJ.** Is foot deformity associated with developmental dysplasia of the hip? Results after examination of 60,844 newborns. *Bone Joint J*. 2020;102-B(11):1582-1586.
2. **Holen KJ, Tegnander A, Eik-Nes SH, Terjesen T.** The use of ultrasound in determining the initiation of treatment in instability of the hip in neonates. *J Bone Joint Surg Br*. 1999;81-B(5):846-851.
3. **Irha E, Vrdoljak J, Vrdoljak O.** Evaluation of ultrasonographic angle and linear parameters in the diagnosis of developmental dysplasia of the hip. *J Pediatr Orthop B*. 2004;13(1):9-14.
4. **Terjesen T, Rundén TO, Tangerud A.** Ultrasonography and radiography of the hip in infants. *Acta Orthop Scand*. 1989;60(6):651-660.

Conflict of interest: None