Reply to Letter to the Editor

Cams and Pincer Impingement Are Distinct, Not Mixed

The Acetabular Pathomorphology of Femoroacetabular Impingement

Justin P. Cobb FRCS

Published online: 15 February 2011
© The Association of Bone and Joint Surgeons® 2011

Dr. Beck rightly points out that Figure 1 [3] suggests that a cam-type hip can be diagnosed from an AP radiograph. In the original version of the figure, the CT image in three orthogonal views was included beneath the radiograph, to show that the diagnosis was a three-dimensional one. This original figure is appended (Fig. 1) by way of reassurance that an AP radiograph is not relied on for this diagnosis. Dr. Beck therefore can be assured that cam hips were not misdiagnosed.

If the 3-D method of Beaulé et al. [1] is used to describe a cam on the femoral side, I have yet to find a case with an acetabulum that is deeper than normal, thus being able to act as a pincer as described by Ganz et al. [4] in a seminal and widely cited article. Therefore I agree with the conclusion that Dr. Beck draws from the data presented [3]: the acetabulum in pincer hips does appear to be distinctly different from the acetabulum in cam hips. Dr. Beck

describes exactly what was observed: there are two separate methods of impingement.

However, in a later paper that also is cited widely, Beck et al. stated that the majority of cases are of ‘mixed’ type [2]. Although I agree that most cases have evidence of impingement on the femoral and acetabular sides, I do not agree that the mechanism is ever mixed, and wonder if this important point might have been ‘lost in translation’. I continue to look for the first reported case of coxa profunda with a cam on the femur, or of a cam hip with an acetabulum that is even of average depth.

This issue is clinically relevant: the acetabulum of the cam hip is shallow - not deep, therefore “rim trimming” of the acetabular iliac eminence in these hips runs the risk of causing iatrogenic acetabular insufficiency, leading to rapidly progressive hip damage.

(Re: Cobb J, Logishetty K, Davda K, Iranpour F. Cams and pincer impingement are distinct, not mixed: the acetabular pathomorphology of femoroacetabular impingement. *Clin Orthop Relat Res*. 2010;468:2143–2151.)

J. P. Cobb (✉)
Department of Orthopaedics, Imperial College,
Charing Cross Hospital, London W6 8RF, UK
e-mail: j.cobb@imperial.ac.uk

Fig. 1 Plain radiographs of normal, cam, and pincer-type hips are shown, with CT images of 3d, axial, sagittal and coronal reconstructions below. The green normal hip has alpha and centre-edge angles in the normal range. The red cam hip has a large alpha angle visible in the axial view. The blue pincer hip has a large centre-edge angle visible in the coronal view. (Adapted from Cobb J, Logishetty K, Davda K, Iranpour F. Cams and pincer impingement are distinct, not mixed: the acetabular pathomorphology of femoroacetabular impingement. *Clin Orthop Relat Res.* 2010;468:2143–2151.)

References

1. Beaulé PE, Zaragoza E, Motamedi K, Copelan N, Dorey FJ. Three-dimensional computed tomography of the hip in the assessment of femoroacetabular impingement. *J Orthop Res.* 2005;23:1286–1292.
2. Beck M, Kalhor M, Leunig M, Ganz R. Hip morphology influences the pattern of damage to the acetabular cartilage: femoroacetabular impingement as a cause of early osteoarthritis of the hip. *J Bone Joint Surg Br.* 2005; 87:1012–1018.
3. Cobb J, Logishetty K, Davda K, Iranpour F. Cams and pincer impingement are distinct, not mixed: the acetabular pathomorphology of femoroacetabular impingement. *Clin Orthop Relat Res.* 2010;468:2143–2151.
4. Ganz R, Parvizi J, Beck M, Leunig M, Notzli H, Siebenrock KA. Femoroacetabular impingement: a cause for osteoarthritis of the hip. *Clin Orthop Relat Res.* 2003;417:112–120.