Improved survivorship of hybrid metal-on-metal hip resurfacing with second-generation techniques for Crowe-I and II developmental dysplasia of the hip.

Abstract: BACKGROUND: The purpose of this study was to determine the influence of improved femoral fixation techniques on the survivorship of metal-on-metal total hip resurfacing prostheses in patients with developmental dysplasia of the hip and to report the long-term results of our patients managed earlier with first-generation fixation techniques. METHODS: One hundred and three hips (ninety patients) were resurfaced for osteoarthritis secondary to developmental dysplasia. The mean age of the patients was forty-seven years, and 77% were women. Most hips (94%) were Crowe class I, but 43% had femoral head defects of $>1$ cm in size. The clinical results of these hips were compared with those of a group of patients with other etiologies, largely dominated by idiopathic osteoarthritis (78%). RESULTS: All clinical scores improved significantly ($p < 0.0001$) and were comparable with those of patients with other etiologies except for the postoperative activity scores, which were lower (7.0 compared with 7.5). Range of motion was greater for the patients with dysplasia than for the patients with other etiologies. Seven hips that were resurfaced with the first-generation femoral fixation techniques and one hip that was resurfaced with the second and third-generation techniques had conversion to total hip arthroplasty. This difference was found to be significant ($p = 0.032$) in a
multivariate, time-dependent analysis after adjustment for other covariates known to affect prosthetic survival. There was no loosening of the acetabular component in this series. CONCLUSIONS: The current improvements in the short-term to midterm results after resurfacing in patients with developmental dysplasia of the hip in whom more current techniques were used are encouraging and allow for greater expectations regarding the elimination of short-term failures and improved long-term durability of resurfacing in this population.