Positive long-term outcomes with arthroscopy for young adults with borderline hip dysplasia

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For young adults with borderline hip dysplasia (BHD), primary arthroscopy provides positive long-term outcomes, improving symptoms and function while avoiding the need for hip replacement surgery in most cases, reports a study in *The Journal of Bone and Joint Surgery*.

Ten-year follow-up data provides new evidence on the benefits of arthroscopy for treatment of BHD, according to the case series by Benjamin G. Domb, MD, of the American Hip Institute, Chicago.

New data on arthroscopy as less-invasive alternative for BHD

BHD is a congenital condition in which the hip socket does not fully cover the ball-like femoral head. Symptoms such as pain, limping, and hip instability often do not develop until young adulthood. Over time, patients with BHD are at risk of developing osteoarthritis, in many cases leading to total hip arthroplasty (THA).

There is ongoing controversy regarding the best treatment for BHD. The standard treatment is surgery (periacetabular osteotomy) to reconstruct and reposition the hip joint. Arthroscopy has emerged as a less-invasive alternative procedure, with studies showing improvement in symptoms and hip function at short- to medium-term follow-up. However, because of a lack of long-term follow-up data, it has been unclear whether

arthroscopy is a "temporary or definitive solution," according to the authors.

To address this question, Dr. Domb and colleagues report their experience with primary arthroscopic surgery for BHD. Typical of patients requiring BHD treatment, the patients were young (mean age, 31 years) and predominantly female (38 of 45 patients). All patients met standard radiographic criteria for BHD diagnosis (i.e., a lateral center-edge angle between 18° and 25°).

Arthroscopic surgery included tightening (plication) of the joint capsule and preservation of the cartilage lining the labrum. All patients had 10-year follow-up data to assess the need for conversion to THA as well as patient-reported ratings of symptoms and hip function.

Follow-up shows low rate of THA conversion, good clinical improvement

Eight of the 35 patients underwent THA during follow-up, performed at an average of about five and a half years after arthroscopy. On Kaplan-Meier analysis, estimated "survivorship" was 82.8%—about four out of five patients with BHD could expect to remain free of THA for at least 10 years after primary arthroscopy. This rate compared favorably to a matched control group of patients without BHD.

Patients who required THA were older and heavier than those who did not. After adjustment for other factors, the likelihood of THA was 4.4 times higher for patients with a body mass index of 23 kg/m^2 or greater, and 7.1 times higher for those 42 years or older.

Primary arthroplasty for BHD was also associated with significant improvement on standard patient-reported outcome measurements,

including pain and hip function. For example, three-fourths of patients met the minimum clinically important difference for improvement in pain score.

Building on previous short- to medium-term studies, the study adds new evidence showing good long-term outcomes following primary arthroplasty for BHD. In addition to a low rate of conversion to THA over 10-year follow-up, less-invasive treatment with arthroscopy also avoids the longer recovery time required by standard surgery for BHD.

The authors point out some limitations of their case series—it was carried out at a highly specialized hip center, in a relatively small number of patients, with no comparison to standard surgery. Dr. Domb and colleagues conclude: "BHD remains a challenging condition to treat successfully arthroscopically, and adequate capsular plication remains a highly technique-dependent procedure."

More information: Benjamin G. Domb et al, Borderline Dysplasia After Primary Hip Arthroscopy with Capsular Plication and Labral Preservation, *Journal of Bone and Joint Surgery* (2023). DOI: 10.2106/JBJS.22.00340

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