

## RISK FACTORS IN HIP OSTEOARTHRITIS IN JUVENILE IDIOPATHIC ARTHRITIS

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**Relevance:** Hip involvement in juvenile idiopathic arthritis (JIA) is an alarming sign for patients and physicians. It may lead to osteoarthritis development, intensive pain, loss of function and often required total hip arthroplasty (THA). The data about hip osteoarthritis development in JIA is scarce compare to adults.

**Objectives:** to evaluate risk factors in hip osteoarthritis in JIA.

**Materials and methods:** 753 patients, aged 2–17 years, with JIA were included in the retrospective single-center study. Diagnosis of JIA and JIA categories was made according to ILAR criteria. Patients were divided into 4 categories, according to stage of hip involvement: 1) patients whom THA was undergone due to hip osteoarthritis (HOA), 2) patients with HOA without indications for THA, 3) patients with hip arthritis (HA) without femoral head structural changes, and 4) patients without HA. Clinical, laboratory characteristics and treatment regimens were compared.

**Results:** A total of 153/753 (20.3%) JIA patients have hip involvement. HA occurs in 25.8% patients with enthesitis-related arthritis (ERA), in 14.3% with polyarthritis, in 13.8% with systemic JIA (sJIA). HOA development was the same in ERA and sJIA (10.2 and 10.3%) but THA requirement was higher in sJIA (8.6%) compared to polyarthritis (3%) and ERA (1.6%). Incidence of HOA (19.0% vs 5.3%) and THA (8.6% vs 1.6%) were significantly higher in sJIA compared to non-systemic JIA (nsJIA). Delayed hip involvement correlated with severity of femoral head changes: 68,7% of THA, 53.1% of HOA and 27.6% of HA patients had story of delayed hip involvement ( $p=0.003$ ) with sJIA leading subtype compared with non-systemic subtypes (57.9% vs 30.6%). Patients with sJIA had the highest cumulative doses of corticosteroids in contrast with all other JIA categories. There were significantly lower calcium and alkaline phosphatase levels in patients with both HOA and THA in non-systemic JIA subtypes.

**Conclusion:** Both sJIA and systemic corticosteroids as well as impaired calcium-phosphorus metabolism and delayed hip arthritis are the risk factors for HOA development in JIA. Hip osteoarthritis is considered to be a serious adverse event of corticosteroid treatment especially in case of delayed hip involvement.

### References

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