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Conclusion

- The use of GC in the long-term is associated with higher risks of hypertension, osteoporosis, and short stature in adulthood.
- The introduction of bDMARD treatment in JIA has notably reduced the long-term use of GC, but one in fourteen young adults still receives this therapy.
- Given the potential impact on long-term health, GC should be prescribed for as short a time as possible.

Background

Juvenile idiopathic arthritis (JIA) patients can suffer from comorbidities at onset or during their disease course. Numerous targeted DMARDs have been approved for treating juvenile idiopathic arthritis (JIA) over the last two decades. Despite these advancements, co-medications with glucocorticoids (GC) are still used alongside DMARDs. However, long-term side effects such as short stature, osteoporosis or hypertension may occur.

Objectives

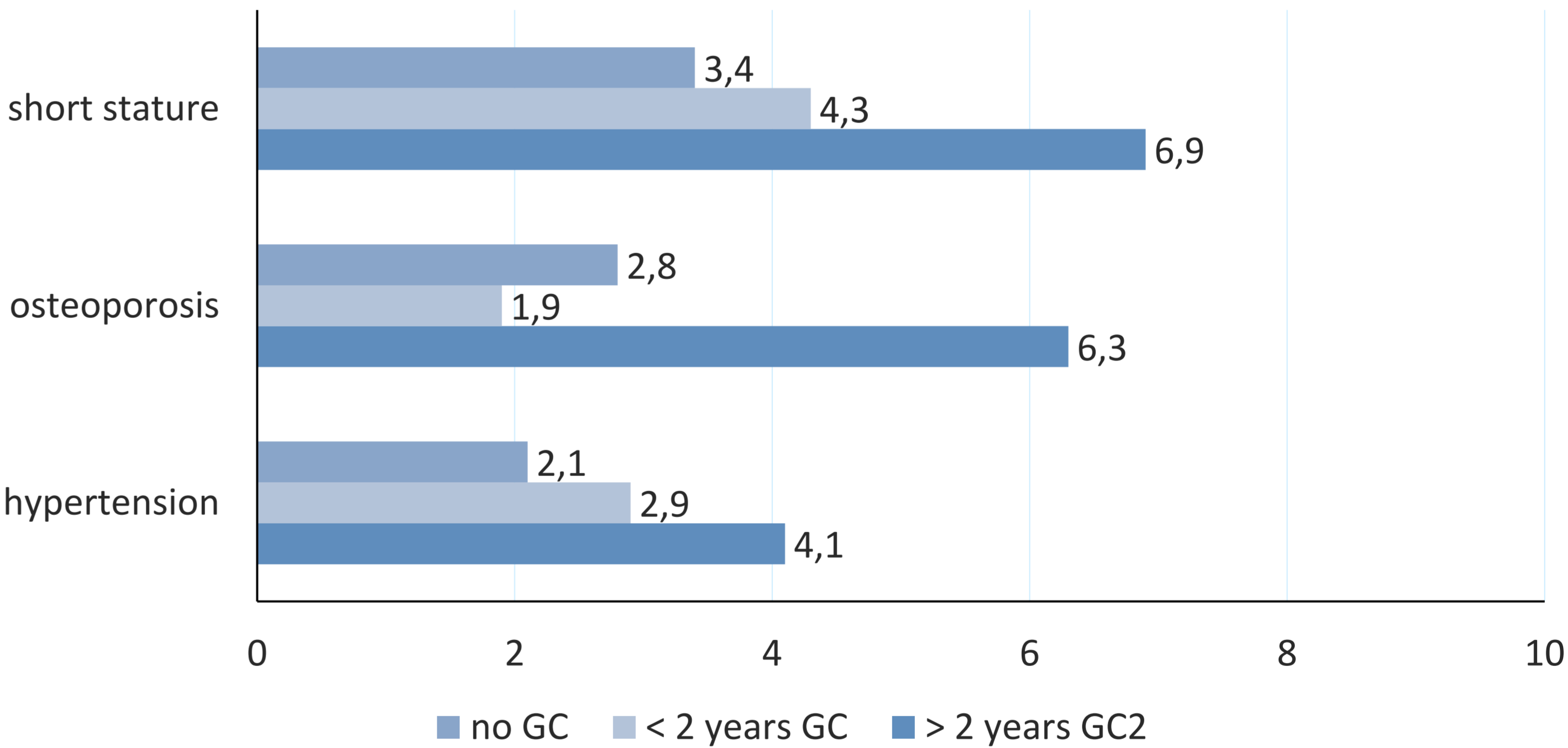
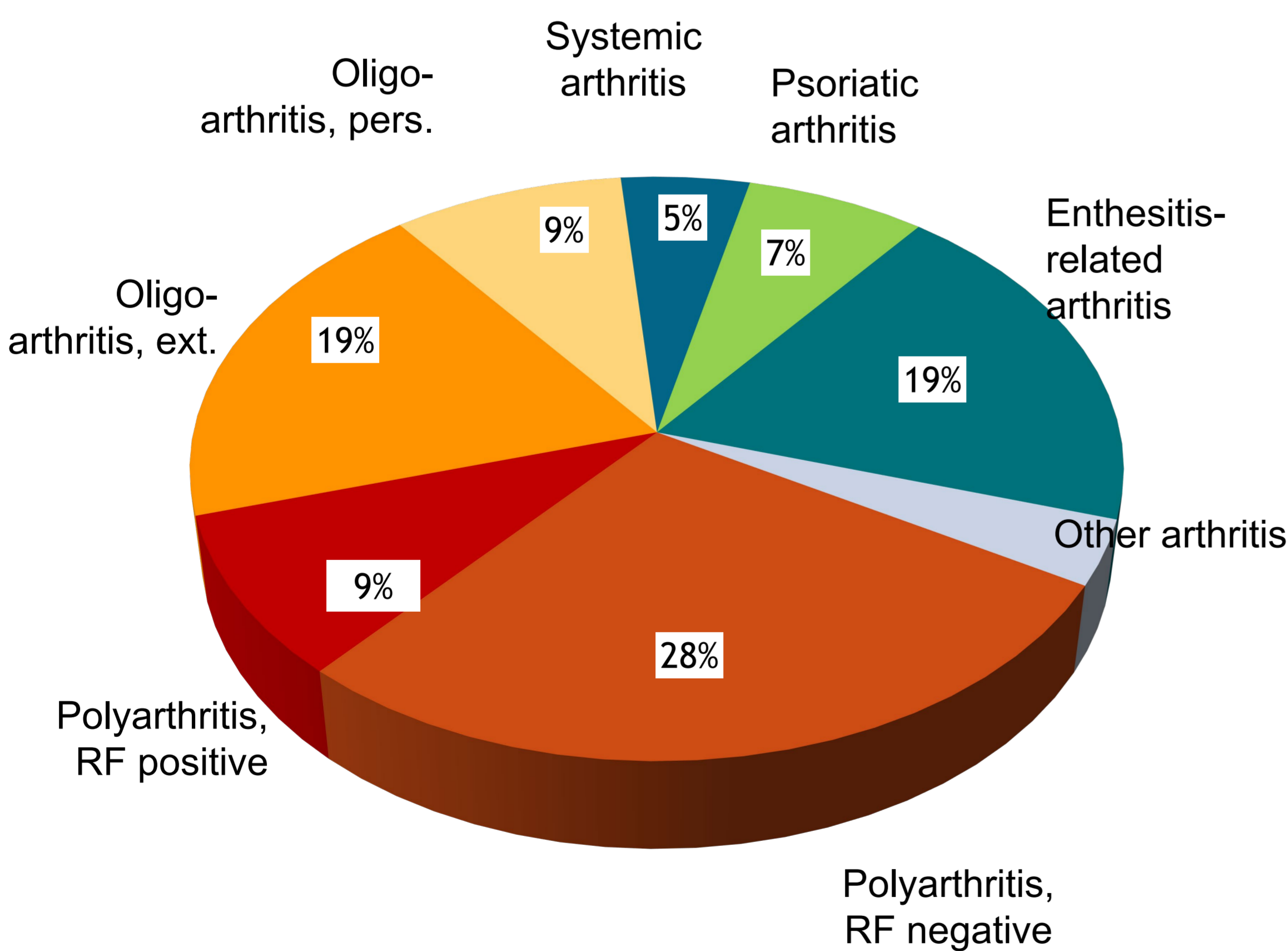
- This study aimed to determine the frequency of hypertension, osteoporosis, and short stature in young adults with JIA and to investigate the association between duration of GC use and the onset of selected comorbidities.

Methods

- We analyzed data collected until June 2024 from the JIA register BiKeR (Biologics in Pediatric Rheumatology Registry) cohort and its follow-up register JuMBO (Juvenile arthritis Methotrexate/Biologics long-term Observation).
- JIA patients enrolled in the pediatric register BiKeR with start of a DMARD were subsequently monitored into adulthood in JuMBO.
- The treating physicians half-yearly reported on patients’ disease activity, treatments, and adverse events/comorbidities.
- Hypertension and osteoporosis were identified using the MedDRA (Medical Dictionary for Regulatory Activities) SMQs (standardized medical query) “Hypertension” and “Osteoporosis/osteopenia”, respectively. Short stature in adulthood was defined according to the German society of endocrinology (<1.53 m for female, <1.67 m for male).

Results

- For this analysis, 2026 JIA patients were included, with a mean age of 13.2±3.8 years at BiKeR inclusion and 23.8±4.4 years at the last JuMBO visit, and an average follow-up period of 10.5±4.5 years.
- Prolonged GC use was significantly associated with higher risks of hypertension, osteoporosis, and short stature in young adulthood, adjusted for JIA category, sex and bDMARD treatment.



- Hypertension, osteoporosis, and short stature were reported in 2.9%, 3.6%, and 4.7% of patients, respectively.
- The shorter the duration between JIA onset and DMARD start was, the lower the rate of hypertension.

- Patients with JIA onset before 2000 were more likely to have these comorbidities than those with JIA onset after the introduction of bDMARDs

	Total (n=2026)	JIA onset before 2000 (n=468)	JIA onset in 2000 and later (n=1558)
Glucocorticoids at first BiKeR visit	682 (33.7%)	225 (48.1%)	457 (29.3%)
Glucocorticoids at last BiKeR visit	52 (2.6%)	20 (4.3%)	32 (2.1%)
Glucocorticoids at first JuMBO visit	208 (10.3%)	100 (21.4%)	108 (6.9%)
Glucocorticoids at last JuMBO visit	198 (9.8%)	90 (19.2%)	108 (6.9%)
Hypertension, n(%)	58 (2.9%)	34 (7.3)%	24 (1.5%)
Osteoporosis, n(%)	72 (3.6%)	29 (6.2%)	43 (2.8%)
Short stature, n(%)	95 (4.7%)	47 (10.4%)	48 (3.1%)

References: Napp R, Horneff G. Komorbiditäten bei Patienten mit juveniler idiopathischer Arthritis. arthritis + rheuma 2020; 40: 184–198.

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