

Anaemia and growth in children

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GUIDELINES

No recommendations possible based on Level I or II evidence

SUGGESTIONS FOR CLINICAL CARE

(Suggestions are based on Level III and IV sources)

- **There is no evidence that correction of anaemia improves growth in children with chronic kidney disease (CKD). However, correction of anaemia is indicated to improve quality of life and cardiovascular performance.**

Background

Children with CKD or end-stage kidney disease (ESKD) are frequently anaemic and receive erythropoietin to correct anaemia.

The objectives of this guideline are to review the available evidence for any relationship between anaemia and its treatment on growth in children with CKD or ESKD.

Search strategy

Databases searched: Medline (1996 to November Week 2 2003) and Embase (1980 to November 2003). MeSH terms for kidney disease were combined with MeSH terms and text words for anaemia. The Cochrane Renal Group Specialised Register of randomised controlled trials was also searched for relevant trials not indexed in Medline.

Date of searches: 1 December 2003.

What is the evidence?

No randomised controlled trials examining the effects of treatment of anaemia with erythropoietin on nutrition, growth, morbidity and mortality in children with ESKD were identified.

Correction of anaemia does not alter growth patterns. No change in height standard deviation score (SDS) was observed in 127 children aged 2–21 years with ESKD who were treated with erythropoietin for an average of 41 weeks (range: 6–115 weeks) (Scigalla 1991).

Among 51 dialysed children treated with erythropoietin, the degree of bone age delay was stable before and during treatment, indicating no change in bone maturation with erythropoietin (Schaefer et al 1991).

An extensive review (Jabs 1996) found that improving anaemia was not associated with improved linear growth.

What do the other guidelines say?

Kidney Disease Outcomes Quality Initiative: No recommendations for children.

British Renal Association: No recommendations for children.

Canadian Society of Nephrology: No recommendations for children.

European Best Practice Guidelines: No recommendations for children.

Implementation and audit

No recommendation.

Suggestions for future research

No recommendation.

References

Jabs K. The effects of recombinant human erythropoietin on growth and nutritional status. *Pediatr Nephrol* 1996; 10: 324–27.

Schaefer F, Andre JL, Messinger D et al. Growth and skeletal maturation in dialysed children treated with RH-erythropoietin (r-HuEPO) – a multicentre study. *Pediatr Nephrol* 1991; 5: C61.

Scigalla P. Effect of recombinant human erythropoietin treatment on renal anemia and body growth of children with end-stage renal disease. The European Multicenter Study Group. *Contrib Nephrol* 1991; 88: 201–11; discussion 212–14.