



Serum zinc, copper, selenium, and lead levels in children with chronic renal failure

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ARTICLE INFO	ABSTRACT
Article type Review article Article history Received: 14 Dec 2013 Revised: 24 Dec 2013 Accepted: 9 Jan 2014 Keywords Chronic kidney disease Renal failure Trace elements	In the last two centuries, chronic kidney disease (CKD) and renal failure (RF) have been considered as the main medical problems which were fatal in many cases. Trace elements such as selenium, copper, and zinc are the components of biological enzymes which have a crucial role in decreasing reactive oxygen. The levels of these trace elements reduce in CKD patients. Close and careful nutritional support of children with CKD, particularly in the early stages of the disease, is necessary.

Please cite this paper as:

Rakhshanizadeh F, Esmaeeli M. Serum zinc, copper, selenium, and lead levels in children with chronic renal failure. *Rev Clin Med.* 2014;1(1):21-24.

Introduction

CKD is defined as Glomerular filtration rate (GFR) less than 60 ml/min per 1.73 m² (1). This definition is not convenient for children younger than 2 years, because their GFR level is lower than older children and adults (2). Some of end-stage renal disease (ESRD) causes are listed as below: autoimmune disorders, congenital renal disease (such as polycystic

kidney disease), renal toxic drugs or chemicals, glomerulonephritis, renal blind or penetrating trauma, kidney stones and infection, reflux nephropathy, and other kidney diseases (3). Two important complications of childhood CKD are retarded growth and renal osteodystrophy (ROD), all of which happened due to growth hormone axis abnormalities, vitamin D

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