

Oral Abstract

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Vitamin D deficiency rickets in Australian children: an APSU study

Munns C¹, Zacharin M², Rodda C³, Davis E⁴, Harris M⁵, Batch J⁶, Pascoe M⁷, Fairchild J⁸, Lafferty A⁹, Whybourne A¹⁰, Ward L¹¹, Morley R¹², Garnett S¹³, Burgner D¹⁴, Geddes J¹⁴, Cherian S¹⁴, Mahajan D¹⁵, Zurynski Y¹⁵, McKay N¹⁵ and Cowell C¹

¹The Children's Hospital at Westmead, Sydney, and University of Sydney, NSW; ²Department of Endocrinology and Diabetes, Royal Children's Hospital, Melbourne; ³Paediatric Endocrinology and Diabetes, Monash Medical Centre, Melbourne; ⁴Department Endocrinology & Diabetes, Princess Margaret Hospital for Children, Perth, WA; ⁵Department of Endocrinology and Diabetes, Mater Children's Hospital, Brisbane, Queensland; ⁶Department of Endocrinology and Diabetes, The Royal Children's Hospital, Brisbane, Qld; ⁷Department of Paediatrics, Royal Hobart Hospital, Hobart, Tasmania; ⁸Department of Endocrinology and Diabetes, Women and Children's Hospital, Adelaide, SA; ⁹Department of Paediatrics, Canberra Hospital, Woden Valley, ACT; ¹⁰Royal Darwin Hospital, Darwin, NT; ¹¹University of Ottawa, Children's Hospital of Eastern Ontario, Ottawa, ON, Canada; ¹²University of Melbourne and Murdoch Children's Research Institute, Melbourne, Vic; ¹³Institute of Endocrinology and Diabetes, Children's Hospital at Westmead, Sydney, NSW; ¹⁴Department of Paediatrics, Princess Margaret Hospital for Children, Perth, WA; ¹⁵Australian Paediatric Surveillance Unit, The Children's Hospital at Westmead, Sydney NSW.

Introduction: The major source of Vitamin D in Australia is skin exposure to UVB. Simple vitamin D deficiency rickets (SVDDR) leads to rickets and osteomalacia, bone pain, fractures, skeletal deformity, hypocalcaemia and seizures¹. Little data are available on the incidence and burden of SVDDR in Australia.

Aim: To determine the incidence of, and risk factors for, SVDDR in Australia.

Methods: Prospective Australia-wide study using the Australian Paediatric Surveillance Unit between January 2006 to June 2007. SVDDR defined as reduced concentration of 25-hydroxy vitamin D (25-OHD) and elevated alkaline phosphatase (Alk phos) or radiological rickets.

Results: There were 393 confirmed cases of SVDDR, translating to an incidence rate of 0.01 per 1000 Australian children \leq 15 years, and 15 per 1000 Sudanese born children. Mean 25-OHD 27.8nmol/L \pm 9.8, Alk phos 626 IU/L \pm 655. Most cases were from Victoria (66%), Western Australia (18%) and NSW (14%). Screening at refugee clinics identified 72% of cases, and 97% of mothers and 77% of children were born overseas (80% Southern African). 85% of children had dark skin and 91% of mothers were veiled during pregnancy. Limb deformity was present in 9%, bone pain 4%, poor growth 4% and seizure 2%. 90% of children received adequate treatment for SVDDR¹.

Conclusion: SVDDR in Australia is associated with significant morbidity and most common amongst recent immigrants, particularly those from Africa and those with dark skin colour. A targeted public health campaign incorporating all levels of government is needed to ensure identification and adequate treatment of children with SVDDR¹.

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