Reflux Nephropathy and Blood Pressure

A cross sectional study at

15 year follow-up

by

Chulananda D A Goonasekera

MD (Anaes) FFARCSI MRCP (UK) DCH

Institute of Child Health and Great Ormond Street Hospital for Children NHS Trust,
30 Guilford Street, London WC 1 N 1 EH, United Kingdom
and
Department of Anaesthesia, Faculty of Medicine, Peradeniya, Sri Lanka

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Abstract

Reflux nephropathy, a condition defined as renal scarring associated with vesico-ureteric reflux and urinary tract infection, has received colossal scientific attention, during the last 3 decades. Young children, who appear to be most vulnerable to this condition, when affected, run a higher risk of developing high blood pressure and renal failure in later life. This thesis describes the clinical and biochemical findings of a cohort with reflux nephropathy, 15 years after their recruitment in a long-term prospective follow-up study at Hospital for Sick Children, Great Ormond Street, London in 1978.

55 of the original cohort, who are now young adults were reviewed after special invitation. 18% of the original cohort had developed hypertension since the beginning of the study and one had died as a consequence. The adolescence and young adulthood seem the age group at highest risk. Although increased plasma renin activity has been observed in many with reflux nephropathy and hypertension, there is no evidence to suggest that this measurement is predictive of subjects at risk of developing hypertension. In addition, the red cell electrolyte studies undertaken in this group of patients suggest that a circulating inhibitor may be playing a part in the development of hypertension although the influence of a positive family history of hypertension upon blood pressure in these subjects appears to be minimal.

In addition, this study also emphasises the difficulties in interpretation of blood pressure, with use of different blood pressure measuring devices, especially in children. Moreover the radiological imaging undertaken in this cohort, controversially questions the value of serial radiological imaging in reflux nephropathy, especially after cessation of vesico ureteric reflux.

Finally, due to advances in antenatal imaging by ultrasound, a new group of patients has emerged who demonstrate renal scars from birth, without associated urinary tract infection. Although these patients are also now loosely categorised as patients with reflux nephropathy, the applicability of the findings of this study for those subjects is questionable.