Management of children with high grade bilateral vesicoureteric reflux and nephropathy

Background: Vesicoureteric reflux (VUR) is one of the most common urological problems faced by pediatric surgeons. Antibiotics are helpful for short periods and in lower grades of VUR. Continuing VUR can cause renal damage by activating the Renin Angiotensin System (RAS). Subsequently severe bilateral VUR leads to nephropathy. Antibiotic treatment, followed by endoscopic management is the answer to managing such cases till 18 months of age. If bilateral VUR still persists, surgery is the key.

Aim: To study the short term and the long-term results of anti-reflux surgery in children with severe grade bilateral VUR and nephropathy.

Methods: A prospective study conducted from July 2009 onwards at our institute and data pertaining to epidemiological, clinical (including blood pressure), biochemical markers (PRA), urine microalbuminuria, glomerular filtration rate, DMSA scan were recorded and compared in patients with severe grade bilateral VUR before & after anti-reflux surgery and after initiation of Angiotensin converting enzyme-1 inhibitors (ACE-I) therapy.

Results: A total of 26 children with severe VUR who underwent bilateral Cohen's re-implantation were included. It was seen that 81% patients (21/26) had >20% improvement in their GFR while only 19% (5/26) showed <20% improvement in their GFR after anti-reflux surgery. There was also significant improvement in the markers of renal damage after surgery (PRA, urinary microalbuminuria, GFR, blood pressure, DMSA scan) in both the groups.

Conclusion: In patients with severe VUR, anti-reflux surgery leads to improvement in GFR and other markers of renal damage. In the long term, once the surgical effect plateaued out, the use of ACE-I also proved beneficial in such patients.

Biography
Minu Bajpai is a Professor of Paediatric Surgeon at All India Institute of Medical Sciences, New Delhi, India. He is Fulbright Scholar at Johns Hopkins University, Baltimore. He is Executive Editor of Journal of Progress in Paediatric Urology. He is President of Indian Association of Paediatric Surgeons (IAPS) from 2014-2015. He Received ICMR National awards twice i.e., 1995-Dr. Kamla Menon Award in Paediatrics and 2009-Kunti Omprakash Gold Medal in Paediatrics. He founded the Indian Society for Paediatric Urology & Asian Society for Paediatric Urology in 1998. He published 201 articles in peer reviewed journals.

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