

DMSA Scan in Acute Pyelonephritis

This refers to the article by Nammalwar *et al.*(1) and the subsequent correspondence(2,3) on the role of DMSA scan in the diagnosis of acute pyelonephritis. There is no doubt that DMSA scan can identify photopenic areas in renal parenchyma due to reduced radiotracer uptake, which, in the presence of supportive clinical and laboratory features, indicate acute pyelonephritis. Such 'scars' disappear after successful treatment of the underlying infection. It is important to note that the initial DMSA scan cannot distinguish between antenatal scarring (that may be present in association with high grades of vesicouretric reflux) or dysplastic areas and acquired parenchymal injury from bacterial infection.

The diagnosis and management of acute pyelonephritis must, however, be based on clinical evaluation (especially age, sex, fever, toxicity) and urine examination. A careful microscopic evaluation of a fresh specimen of urine - suprapubic bladder tap or bladder catheterization may be performed in infants - gives enough information for appropriate antibiotic treatment to be instituted. DMSA scan is not indicated in such situations. The

choice of antibiotic, route of administration and the duration of therapy also depend upon the severity of infection, again as assessed clinically. Thus, infants below the age of 2 years with UTI should be regarded as having pyelonephritis and treated accordingly.

Fever of short duration without an obvious cause and with no urinary symptoms in children is usually not due to UTI (Srivastava, *et al.*, unpublished observations). If urine microscopy does not show abnormality and the culture is negative antibiotic therapy should not be instituted. In acute situations DMSA scan should be reserved for complex diagnostic problems.

R.N. Srivastava,
Consultant Pediatric Nephrologist,
Apollo Indraprastha Hospital,
New Delhi 110 044, India.
E-mail: rnsri@vsnl.net

REFERENCES

1. Nammalwar BR, Vijaykumar M, Sankar J, Ramnath B, Prahlad N. Evaluation of the use of DMSA in culture positive and culture negative acute pyelonephritis. *Indian Pediatr* 2005; 42: 691-696.
2. Mantan M. Role of DMSA scan in pediatric UTI. *Indian Pediatr* 2006; 43: 270-271.
3. Nammalwar BR, Vijaykumar M. Reply. *Indian Pediatr* 2006; 43: 271-274.