

Comparison of direct radionuclide cystography and voiding direct cystography in the detection of vesicoureteral reflux

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Purpose: The aim of this study is to compare the results of direct radionuclide cystography (DRNC) and voiding cystourethrography (VCUG) in a group of children with a high suspicion of vesicoureteral reflux (VUR). **Methods:** For this purpose, 25 children were studied with both VCUG and DRNC. Among 50 ureter units able to be compared 39 ureter units did not show any VUR on either study. Eleven ureter units (10 children) had VUR either on one study or on both (VCUG and DRNC). In the children who had VUR on either study, a dimercaptosuccinic acid scintigraphy (DMSA) was performed to determine their cortical function. **Results:** We identified the following four patterns: 1) Five ureter units (five children) read positive on DRNC who were negative on VCUG and four of these children had positive findings on DMSA; 2) Four ureter units (four children) read positive on VCUG who were negative on DRNC, and two of them had positive findings on DMSA; 3) Two ureters (one child) read positive in both studies and also had abnormal DMSA findings; 4) Thirty-nine ureter units read as negative on both studies. **Conclusion:** Although the results of these two methods did not show a significant difference, DRNC offers a high sensitivity in the younger age group whereas VCUG seems to be more sensitive in the older age group. DRNC also offers continuous recording during the study, ease of assessment and lower radiation dose to the gonads, which makes it a preferable method for the initial diagnosis and follow-up of VUR.

Key words: vesicoureteric reflux, radionuclide cystography, voiding cystourethrography