

Oral Presentation

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Kidney control in spina bifida: is ultrasound sufficient or is DMSA scanning needed?

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from 48th Annual Meeting of the Society for Research into Hydrocephalus and Spina Bifida
Dublin, Ireland, 23–26 June 2004
Published: 23 December 2004

Cerebrospinal Fluid Research 2004, 1(Suppl 1):S39 doi:10.1186/1743-8454-1-S1-S39

This article is available from: <http://www.cerebrospinalfluidresearch.com/content/1/S1/S39>

Background

Prospective pilot study to evaluate the predictive value of ultrasound compared to DMSA-scans for assessment of renal damage in spina bifida patients.

Materials and methods

Thirty-five spina bifida patients were evaluated by ultrasound and the outcome of ultrasound was used to predict the outcome of subsequent DMSA-scans of the same patients. Ultrasound parameters were kidney length, dilatation of collecting systems and visible scarring of kidney parenchyma. DMSA parameters were kidney size, shape and split renal function.

Results

In 21 patients with normal ultrasound, DMSA scan was normal. In 3 patients with abnormal ultrasound (1 scar, 1 abnormal shape of kidney, 1 dilated system), the DMSA scan was normal. In 11 patients with abnormal ultrasound ultrasonography predicted the outcome of the abnormal DMSA scan correctly.

Conclusion

Except for a 14% false-positive findings ultrasound is a safe predictor of normal vs abnormal kidneys in pediatric spina bifida patients. This means that kidney control by DMSA scanning can be confined to the small group of patients with severe scoliosis in whom correct visualisation by ultrasound appears to be impossible.