

The “champagne cup” sign: a novel marker for the first trimester diagnosis of sacral agenesis

S. Lakshmy, A. Murugan Rajee, P. Pawadi, V. Ravi, S. Ramakrishnan, Shri Lakshmi Clinic and Scan Centre, Krishnagiri, India

Introduction: First trimester prenatal diagnosis of sacral agenesis is challenging due to incomplete ossification of sacrum at 11-14 week scan. The ultrasound findings of caudal regression syndrome in first trimester would be a shortened CRL and an abrupt ending of the fetal spine. Lower limb abnormality can be associated with this spectrum. The objective of this study is to describe a new sign called the “champagne cup” sign based on the medial convergence of the iliac bones for the prenatal diagnosis of sacral agenesis.

Methods: The ossification of S1 is seen between the two iliac wings as early as 12 weeks of gestation. In sacral agenesis, the two iliac wings converge together in the midline and gives the appearance of champagne cup in the coronal plane. This sign was retrospectively evaluated in 7 cases of postnatally confirmed first trimester sacral agenesis.

Results: The “champagne cup” sign was present in 6/7 (85%) cases of sacral agenesis. In one case with sirenomelia, the sign was not seen as the iliac bones were rudimentary and appeared as a small midline dot. In all the remaining cases, the medial convergence of the iliac bones were seen in coronal section depicting the absence of the sacral spine.

Conclusion: The medial convergence of iliac bones – the “champagne cup” sign is a robust marker to identify complete sacral agenesis in first trimester. Incorporation of coronal spine evaluation in first trimester and knowledge of this sign would help in early diagnosis of complete sacral agenesis.

