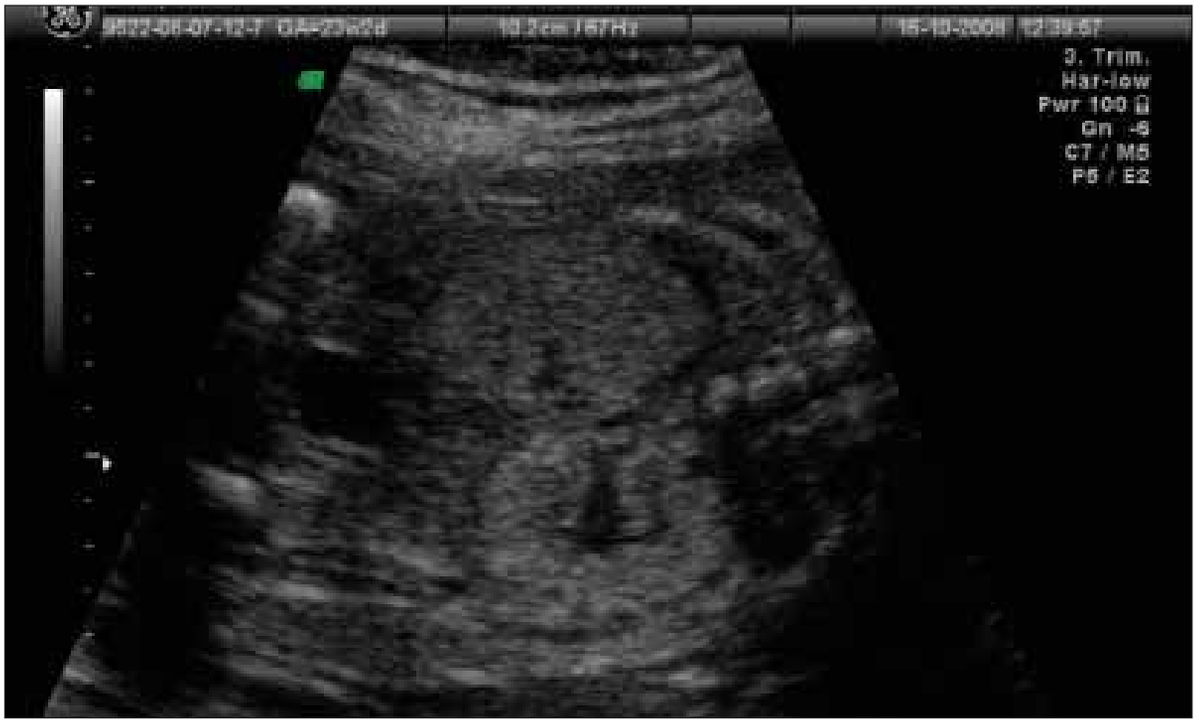
What is your diagnosis?



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Answer

Kidney hyperechogenicity is diagnosed after 17 week' s gestation when the kidneys appear more echogenic than the liver or the spleen (1). The presence of echogenic kidneys on the prenatal ultrasound is associated with a high incidence of renal problems. Such abnormal echogenicity can result from the presence of multiple microscopic cysts, dysplasia or tubular dilatation (2).

In the recent years hyperechogenic kidneys are diagnosed with increasing frequency. This sonographic finding may correspond to many kidney diseases including obstructive dysplasia, bilateral multicystic dysplasia, genetic inherited renal disease (autosomal recessive polycystic kidney diseases, autosomal dominant polycystic kidney diseases), genetic syndromes (Perlman syndrome, Beckwith- Wiedemann syndrome, Bardet-Biedl syndrome, Meckel syndrome), nephroblastomatosis, renal vein thrombosis, toxic injury, infections, ischemia, aneuploidy and in some cases may be a normal variant (3).

Fetal kidney length (expressed as standard deviation from the mean) must be measured and echogenic patern, corticomedullary differentiation (CMD), presence or absence of the of renal cyst, size of the collecting system, amniotic fluid volume and other abnormal sonographic findings must be analyzed and recorded for the differential diagnosis.

In the presented ultrasound image of a fetus at 23 weeks of gestation, moderately enlarged (1-2 SD> mean) kidneys were demonstrated. The medulla and cortex were both hyperechoic and CMD was absent as described by Brun et al. which was not specific but should be clue for consedering other sonographic features of the disease (4). The family history was consistent with autosomal dominant polycystic kidney diseases (ADPKD). The prenatal diagnosis was confirmed to be ADPKD with postnatal follow- up. This appearance differs from what is usually observed in cases of autosomal recessive polycystic kidney diseases (ARPKD) with very enlarged kidneys (4-6 SD), absent, decreased or reversed CMD, cysts and frequently reduced amniotic fluid.

Prenatal diagnosis of fetal nephropathies would provide adequate prenatal counseling to parents and would improve short and long-term outcome with appropriate multidisciplinary management of these cases.

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Picture of the cover page is a case of Cloacal Dysgenesis confirmed via fetal magnetic resonance imaging.
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