This leaflet is to help you understand what hydronephrosis is, what tests you need and the implication of having been diagnosed with hydronephrosis is for you, your baby and your family.

What is fetal hydronephrosis?

Fetal hydronephrosis is the dilation of the renal pelvis with or without the renal calyces. The prevalence of fetal hydronephrosis ranges from 0.6 to 5.4%, with a male predominance.

How does hydronephrosis happen?

The urinary tract includes two kidneys, two ureters, a bladder and a urethra. Normally, urine flows from the kidneys to the bladder through the ureters. Fetal hydronephrosis is swelling of the kidney when too much urine collects in the renal pelvis (or basin). This occurs when there is a blockage of the urinary tract, most commonly in the ureter, and urine cannot drain from a kidney. This blockage causes kidney swelling because urine builds up in the kidney. The degree of fetal hydronephrosis depends on the size of the swelling and the severity of the blockage. If not being treated, hydronephrosis can cause the kidney to lose its ability to make urine. Hydronephrosis can be detected by a prenatal ultrasound examination.

Should I have more tests done?

As fetal hydronephrosis is a soft marker for Down's syndrome, the finding of fetal hydronephrosis in a pregnant woman should prompt a reassessment of her risk of having a child with Down syndrome. In the presence of a normal fetal anatomic survey, a negative combined first-trimester, second-trimester serum or cell-free DNA screening result, fetuses with isolated hydronephrosis do not appear to be at increased risk for Down's syndrome.

What are the things to watch for during pregnancy?

When mild hydronephrosis [The urinary tract dilatation (UTD) classification system A1, renal pelvis 4-7 mm in the second trimester] is found, an additional ultrasound examination after 32 weeks' gestation will be offered to assess for any changes to the appearance of the kidney. The bladder and the amniotic fluid (composed entirely of excreted fetal urine) around the baby should be normal. The ureters should not be visualised, and the kidneys should be normal. For severe hydronephrosis (UTD A2-3, renal pelvis $\geqslant$7 mm in the second trimester), follow-up ultrasound examination will likely be repeated in 4-6 weeks.

What does it mean for my baby after it is born?

After your baby is born, your doctor will offer a test to see if there is still a problem. If a problem is found, your baby's doctor will offer more tests. These tests help the doctor make decisions about medical treatment for your baby.

Your baby may not have all of these tests. Tests may include:

- Ultrasound. This test helps the doctor look at your baby's kidneys and bladder. It can show if kidney swelling is reduced.
- X-ray. This test shows how well your baby's bladder is working.

Will it happen again?

The recurrent risk for isolated hydronephrosis is not increased.

What other questions should I ask?

- Does this look like severe hydronephrosis?
- Are other organs involved?
- Is there a way to be sure of the diagnosis?
- How should the pregnancy be followed-up?
- Is there a treatment available during the pregnancy?
- Where and when should I deliver?
- What care will the baby receive after it is born?
- Can I meet the genetic specialist?
- Can I meet the kidney specialist?
- Can I meet the team of doctors that will be assisting my baby when it is born in advance?

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