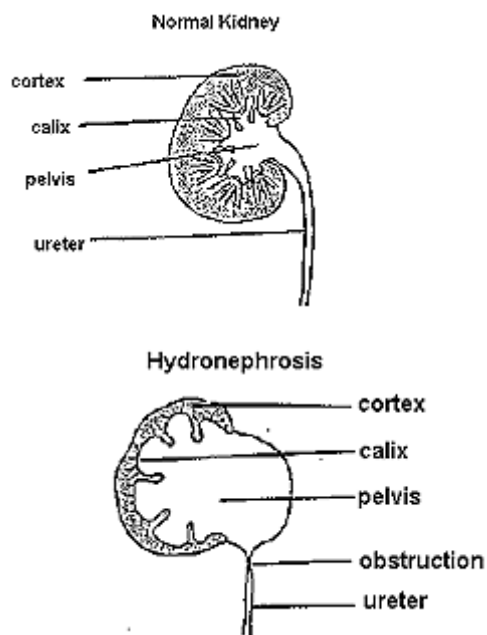


UNC Center for Maternal & Infant Health

"If we are to achieve results never before accomplished, we must employ methods never before attempted."

Francis Bacon

Hydronephrosis (hi dro-ne-fro sis)



What is hydronephrosis?

Hydronephrosis is a dilation of the inner part of the kidney where urine collects before it passes down the ureter to the bladder. All kidneys have a small amount of urine collected on the inside of the kidney. Hydronephrosis is the name given to a kidney, which has collected more urine than normal. It may occur as a result of a blockage preventing urine from leaving the kidney or from urine refluxing back up into the kidney from the bladder. It may also be normal. Some kidneys simply hold more urine than others.

A blockage can occur along the tubes that drain the urine from the kidneys to the bladder (ureters) or in the tube that drains the bladder to the outside of the body (urethra). With hydronephrosis, the kidneys and/or drainage system are larger than they

should be. Depending on the type of blockage, there may be too little, too much or a normal amount of amniotic fluid, (the fluid that is around the baby while you are pregnant).

Sometimes a sample of the unborn baby's (fetus) urine can be taken and tested to see how well the kidneys are functioning. The baby's urine makes up a large part of the amniotic fluid starting in the second trimester. If there is not enough amniotic fluid (oligohydramnios), the fetus' lung growth and arm and leg growth can be affected.

Why does it occur?

The exact cause of hydronephrosis is unknown. The reason for the blockage or reflux is presently unknown. It does not appear to be associated with exposure of the fetus to medications, alcohol or tobacco. There is nothing you could have done to cause or prevent this.

How often does it occur?

One out of every 500 babies is born with this condition. Males are more likely to have this than females. Oftentimes, hydronephrosis that is found during a prenatal ultrasound will correct itself before the baby is born or within his/her first year of life.

How is hydronephrosis diagnosed?

It can be diagnosed during pregnancy by ultrasound. If your doctor finds that you have too little or too much amniotic fluid, he/she may want to do an ultrasound. Hydronephrosis can be seen on the

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ultrasound during the second or third trimester of pregnancy, (or between 4-9 months).

How will my baby be delivered?

Most babies with hydronephrosis are delivered by vaginal delivery. Delivery before your due date may be necessary if your fetus is not growing the way doctors want, if there is not enough amniotic fluid, or if the fetus' kidneys are continuing to get bigger.

When you deliver here, your baby will have immediate access to our neonatology specialists (high-risk pediatricians), pediatric urologists, and nephrologists (doctors specializing in kidneys and urinary tracts).

Could my baby have any other birth defects?

Depending on the cause of the hydronephrosis and the amount of the blockage, your baby may or may not have any other birth defects. The doctor will perform an ultrasound to see if there are any other problems. Depending on the cause and degree of your baby's hydronephrosis, the doctor may want to do several ultrasounds to monitor your baby's kidneys.

If the blockage occurs where the kidney drains into the tube, your baby may also have heart, spinal cord, and/or stomach defects. If the blockage occurs where the drainage tube connects with the bladder, your baby may not have enough development of the other kidney, multicystic kidney disease, or Hirschsprung's disease.

If the tube that drains the bladder to the outside of the body (urethra) is blocked, the fetus may have lungs that aren't fully developed, not have proper kidney development, and/or not have normal development of the urethra. Twenty-five percent (25%) of babies with this type of blockage can also have problems with their genes (chromosomal problems), like Trisomy 18 and 13. If your baby has this type of blockage, the doctors may want to test the amniotic fluid (amniocentesis) to find out if the baby's chromosomes are abnormal.

What can I expect after my baby's birth?

The pediatric staff from our Newborn Critical Care Center (NCCC) will be available at the time of your delivery to care for your baby in the nursery. After delivery, our neonatologists will work closely with our pediatric urologists and nephrologists to treat your baby. The majority of children found to have prenatal hydronephrosis will never require surgery and should outgrow the hydronephrosis in one or two years without any long term kidney problems. Treatment of each individual child depends on the final cause (Blockage, Reflux, Normal) of the hydronephrosis which can only be determined after birth.

If you have any questions or concerns, please contact your perinatal care coordinator.

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