

Kidney Infections Caused by Genetic Disorder in Children

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DESCRIPTION

Many reasons can cause kidney disease in children when compared to adults. Kidney disease in children mainly caused by following reason:

Kidney birth defects

Birth defects in kidney disease are physical issues with child's kidneys that have existed since birth. The following are some of the most common kidney birth defects:

- Instead of two kidneys, only one is working (renal agenesis or solitary kidney).
- In two kidneys, one of them isn't working properly or at all (renal hypodysplasia).
- A kidney that is positioned incorrectly, such as below, above, or on the other side of the body from where it should be (ectopic kidney).
- Abnormalities of the bladder or ureters (urine flow is restricted or urine flow reverses and refluxes from the bladder to the kidneys).
- It could have been caused by a genetic illness or something when child was exposed to or was not exposed to during pregnancy, such as medicines used by the mother.
- The majority of infants born with a kidney birth defect will not have significant health concerns and will be able to live full, healthy lives. However children born with a kidney defect, on the other hand, may have a higher risk of developing renal disease later in life.

Genetic diseases

A genetic ailment is handed on through the genes from one or both parents to their children. Genes contain DNA and direct the actions of cells. It's also known as a hereditary or inherited sickness. It is impossible to prevent a genetic condition. Certain hereditary illnesses can be treated and managed with the use of drugs.

The following are the most frequent hereditary illnesses that lead to renal disease:

- Alport syndrome

- Autosomal Recessive Polycystic Kidney Disease (ARPKD)
- Nephropathic cystinosis

Alport syndrome: Alport syndrome is a rare genetic illness caused by mutations (changes) in three genes that tell certain parts of your child's body how to grow. As a result, child's kidneys, hearing, and eyes will not develop properly.

Alport syndrome is always associated with kidney failure, although it can also result in hearing loss and vision issues. Symptoms may appear in children as early as childhood. There are medicines that can help safeguard child's kidneys and help them function properly for a longer period of time.

Autosomal Recessive Polycystic Kidney Disease (ARPKD): One kind of Polycystic Kidney Disease (PKD) is Autosomal Recessive Polycystic Kidney Disease (ARPKD). ARPKD is a rarer form of the disease. It causes cysts to grow in the kidneys and liver of children. Cysts are fluid-filled sacs in the body. The cysts harm the tissues of children kidneys, causing them to grow much larger than they should.

Infants may have symptoms that a doctor can spot on an ultrasound before they are born. In newborns, it can lead to life-threatening complications such as kidney failure. Doctors use medications to address the symptoms of ARPKD. Doctors also treat any complications that arise as a result of ARPKD, including as urinary tract infections.

Nephropathic cystinosis: Nephropathic cystinosis is a type of cystinosis that affects the kidneys. The most prevalent kind of cystinosis is nephropathic cystinosis. Cystinosis is a rare hereditary illness in which cystine builds up in the cells of children. Cystine is a protein building block. Too much cystine can harm their kidneys and eyes, among other organs.

Symptoms may appear in children as early as childhood. Use medications to treat cystinosis, such as those that prevent cystine from building up in the body. If they left untreated it may lead to death.

Kidney infection

When bacteria or a virus enters children's body and causes illness, it is called an infection. Antibiotics are used to treat a

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variety of infections that do not have any long-term consequences. Infections, on the other hand, can trigger an inflammatory response in the kidneys, resulting in:

- Glomerulonephritis
- Hemolytic Uremic Syndrome (HUS)

Glomerulonephritis: Glomerulonephritis damages the microscopic filters that clean children's blood in the kidneys (glomeruli). When the glomeruli are injured, they are unable to properly eliminate waste and fluid from children's body. Children's may develop glomerulonephritis quickly or gradually over time.

The following are some of the causes of glomerulonephritis:

- Bacteria Streptococci (the bacteria that causes strep throat)

- Bacterial infection in the heart of children
- Infections caused by viruses such as HIV, hepatitis B, and hepatitis C

Hemolytic Uremic Syndrome (HUS): Hemolytic Uremic Syndrome (HUS) is an uncommon condition in which damaged red blood cells obstruct the filters in their kidneys. It can lead to renal failure and damage.

The most common cause of HUS is *E. coli* bacterium infection. *E. coli* is a type of bacteria that normally lives in your large intestine but can infect children if they eat infected meat or dairy products. HUS is usually treated at a hospital. The most common cause of abrupt kidney failure in children is HUS caused by *E. coli*.