Journal of Tumor Research
ISSN: 2684-1258
OPEN ACCESS Freely available online
Commentary

Diagnosis and Treatment of Wilms Tumor

Punam Joseph*

Department of Oncology, Virginia Commonwealth University, Virginia, USA

DESCRIPTION

Wilms' tumor is a type of kidney cancer that mainly develops in children. About 1 in 10,000 is affected by Wilms' tumor in Europe and North America. More than 500 children are affected by Wilms' tumor for every year in the United States. The occurrence of Wilms tumor seems to vary between populations, with Asians having a lower-than-average risk of developing this cancer and African Americans having a higher-than-average risk. Wilms tumor is often first observed because of abdominal swelling or a mass in the kidney that can be sensed by physical examination.

Diagnosis

Some children who are affected have symptoms like fever, abdominal pain, blood in the urine (hematuria), a low number of red blood cells (anemia), or high blood pressure (hypertension). Other signs of Wilms tumor can include weight loss, vomiting, lethargy, and loss of appetite. A Wilms tumor can grow in one or both kidneys. Approximately 6 to 11% of people who are affected with Wilms tumor develop multiple tumours in one or both kidneys. It can also spread from the kidneys to other parts of the body. In a few cases, Wilms tumor does not involve the kidneys and occurs instead in the abdomen, chest, genital tract, bladder, or lower back. In the formation of Wilm's tumor, there are changes in several genes. Wilms tumor is often related to mutations in the *CTNNB1* gene, *WT1* gene, or *AMER1* gene. These genes provide instructions for building proteins that control gene activity and stimulate the division and growth (proliferation) of cells. *CTNNB1*, *WT1*, and *AMER1* gene mutations lead to the abandoned proliferation of cells, allowing tumor growth. Variations on the short (p) arm of chromosome 11 are also linked with the development of Wilms tumor. Two genes in this area, *H19* and *IGF2*, are either turned off or on depending on the copy of the gene inherited from the mother or the father. The 90 percent survival rate of children with Wilms' tumor can be increased with proper treatment. There is a chance of recurrence of the tumor, depending on the traits of the original tumor. Tumors generally recur in the first 3 years following treatment and develop in the kidneys or other organs, such as the lungs. People who have a Wilms tumor may experience health-related problems such as heart disease, decreased kidney function, and the development of additional cancers.

CONCLUSION

Genetic conditions that cause Wilms tumours can also have this cancer as a feature. These conditions include WAGR syndrome, Frasier syndrome, and Denys-Drash syndrome, which are affected by mutations in the *WT1* gene. Wilms tumor has also been observed in individuals with Beckwith-Wiedemann syndrome, which is caused by changes in the genomic imprinting of the *H19* and *IGF2* genes. Wilms' tumor can be a feature of other genetic conditions caused by mutations in other genes. Many children with Wilms tumours do not have recognized mutations in any of the identified genes. In these cases, the cause of the disorder is unknown. The medicines used to treat Wilms' tumor are Cosmegen, Dactinomycin, Doxorubicin Hydrochloride, and Vincristine Sulfate.

Correspondence to: Punam Joseph, Department of Oncology, Virginia Commonwealth University, Virginia, USA, E-mail: josephpunam@gwu.edu

Received: 27-May-2022, Manuscript No. JTDR-22-18209; **Editor assigned:** 01-Jun-2022, PreQC No. JTDR-22-18209 (PQ); **Reviewed:** 15-Jun-2022, QC No. JTDR-22-18209; **Revised:** 22- Jun-2022, Manuscript No. JTDR-22-18209 (R); **Published:** 29- Jun -2022, DOI: 10.35248/2684-1258.22.8.168.

Citation: Joseph P (2022) Diagnosis and Treatment of Wilms Tumor. J Tumor Res.8:168.