Wilms' Tumor (Nephroblastoma)

Wilms’ tumor, also called nephroblastoma, is a malignant tumor of the kidney(s) that occurs in children. This condition is typically diagnosed by the age of five, with most diagnoses occurring between ages two and three. Children with Wilms’ tumor may present with a fever, blood in the urine, hypertension, or a unilateral, painless abdominal mass. It is important to remember that healthcare workers should never palpate the abdomen of a child with Wilms’ tumor, as this increases the risk of rupturing the encapsulated tumor, which could cause cancer cells to spread to other areas of the body. Interventions to treat Wilms’ tumor include surgical removal of all or part of the affected kidney(s), pre- or postoperative chemotherapy treatments, and postoperative radiation.



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Cause

Malignant Renal Tumor
Malignant-man Kidney Tumor-guy
Wilms’ tumor, also called nephroblastoma, is a malignant tumor of the kidney(s) that occurs in children. Typically, the malignant mass occurs on the left kidney; however, it may also occur on the right side or bilaterally.

Assessment

Abdominal Mass
Abdominal Mass
Parents of children with Wilms’ tumor may seek medical attention due to a noticeable swelling of the abdomen often found while bathing or dressing the child. The abdominal mass associated with this condition is usually unilateral and painless. This mass can be located in the upper abdominal quadrants, or in the flanks, and can be unilateral or bilateral.

Hematuria
Red-urinal
Children with Wilms’ tumor may experience hematuria, or blood in the urine, depending on the extent of renal involvement.

Fever
Fever-beaver
Children may present with a fever of unknown origin before they are diagnosed with this disease.

Hypertension
Hiker-BP
Hypertension, due to excess renin production, may occur. For this reason, blood pressure should be closely monitored.

Interventions

Nephrectomy
Kidney cut off by scalpel
Surgery to remove all or some of the affected kidney(s) is called a nephrectomy. A bilateral nephrectomy is considered a last resort treatment option and is only performed if a kidney transplant is possible. Tissue removed during this procedure can can be biopsied to confirm the presence of Wilms’ tumor.

Chemotherapy
Chemo-head-wrap
Chemotherapy can be used to shrink the tumor before surgery to allow for more conservative removal of the kidney(s). This treatment can also be used after surgery to destroy any remaining cancer cells.

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Radiation

Radiation-radio

Radiation therapy may also be used as a treatment modality after surgery has been performed. Postoperative radiation is often used for children with a large tumor, or with cancer that has metastasized.

Considerations

Do Not Palpate Abdomen

No-sign Paw on Abdomen

Healthcare workers should never palpate the abdomen of a child with Wilms’ tumor, as this increases the risk of rupturing the encapsulated tumor, which could cause cancer cells to spread to other areas of the body. A preoperative tissue biopsy should also be avoided.

Children Under 5 Years Old

Children Less Than (5) Hand

Wilms’ tumor will appear in children by the age of five with most diagnoses occurring between ages two and three.

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