

Wilms' Tumor: A Case Report

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ABSTRACT

Wilms' tumor is also known as nephroblastoma. It is a rare cancer of the kidney which can be found exclusively in young children. It is fourth most common pediatric cancer found in children younger than five years old. Wilms' tumor can grow for a long time without any characteristic symptoms, causing only fever, abdominal pain, nausea, or vomiting, which is the reason why it is often discovered accidentally. With current multimodality therapy, approximately 80-90% of children with a diagnosis of Wilms tumor survive.¹ This article presents a case report of a 7 year old girl child with wilms' tumor stage IV with poor prognosis.

Keywords: Nephroblastoma, Wilms' tumor, Abdominal malignant tumor, Young children

INTRODUCTION

Wilms' tumor is also known as nephroblastoma. It is a rare cancer of the kidney which can be found exclusively in young children. It is fourth most common pediatric cancer found in children younger than five years old. It is typically found in children younger than five years old.² The risk is higher in Black children and lower in Asian children. Wilms tumor is more common in girls as compared to boys. This tumor has been passed down in the genes of a very small percentage of families.⁴

Clinical signs: Wilms tumor usually presents as an asymptomatic abdominal mass in the majority of children. The mother may have discovered the mass during bathing the infant. Other features include: Abdominal pain, Gross hematuria, Urinary tract infections, Hypertension, Fever, Anemia and Large swollen veins across the abdomen. Abdominal pain is the most common presenting symptom (30% to 40%), which is followed by hypertension (25%) and hematuria in children (12% to 25%).²

Diagnosis: Imaging methods useful in the diagnosis and management of wilms' tumor include: abdominal ultrasound, plain abdominal radiograph, abdominal computerized tomography (CT) scan and magnetic resonance imaging (MRI).³

Staging

Stage I- It indicates the tumor is contained within the kidney without any breaks or spillage outside the renal capsule and no vascular invasion. This stage accounts for 40% to 45% of all Wilms tumors.

Stage II- It indicates that the tumor has grown outside the kidney (into surrounding fatty tissue). The tumor can be completely removed by surgery. About 20% of all Wilms tumors are in stage II.

Stage III- About 20% to 25% of all Wilms tumors could not be completely removed surgically. At this stage cancer has spread to the regional lymph nodes.

Stage IV- At this stage tumors have spread through the vascular system to distant organs such as the lungs, liver, brain, or bones, or to distant lymph nodes. These account for about 10% of all Wilms tumors.

Stage V- At this stage both kidneys are involved. About 5% of all Wilms tumors are at this stage.²

Treatment: Treatment of wilms tumor is chemotherapy and nephrectomy for single kidney involvement with excision of tumor cells and preservation of normal cell functioning for bilateral kidney involvement. Combination chemotherapy and radiation are given as a pretreatment in high-risk cases such as the bilateral renal involvement or metastases

Prognosis: About 90% of children diagnosed with Wilms tumor are still alive five years later. The percentage of the disease can vary higher or lower depending on the stage and other factors like tumor size or organ involvement. Children younger than 2 years old has a lower relapse rate for wilms tumor.⁴

Case Report

A female patient (7 years) is a known case of wilms' tumor diagnosed in the year 2021. Initially before 2 years back, she was presented with complains of abdominal pain (on & off), low grade fever (on & off) since 1 month. Abdominal pain was started radiating to thighs and can be relieved to some extent by lying down in prone position. Her mother also felt small lump in right side of abdomen below umbilicus. She was then taken to Government Hospital Kathua, J&K in the month of March 2021. After investigations she was referred to SMGS Hospital, Jammu. Required investigations were done and CT revealed the lesions in right kidney which also covered ureter. She was diagnosed with wilms' tumor stage III.

Preoperative chemotherapy started with Inj. Actinomycin D (75 mg), Inj. Vincristine (1 mg) and Inj. Doxorubicin (35 mg). After one month Radical Nephrectomy was done in the month of April 2021. Patient was also given radiation therapy after surgery. Her condition was improved and she was discharged in the month of June 2021.

She remained alright and playful for approx 2 years at home. She was again admitted to SMGS Hospital on 28th July 2023 with chief complains of abdominal pain and swelling since 1 week. She was also having low grade fever (on & off). During physical examination she was observed with enlarged liver, visible swollen veins across the abdomen. Abdominal tenderness was present. After detailed investigations she was diagnosed with relapsed wilms' tumor stage IV. Chemotherapy has been started with Inj. Cyclophosphamide, 500 mg, BD.

Prognosis: She has not improved after treatment and abdominal swelling is increasing progressively. She has stopped responding and does not take interest in anything. Most of the time she used to sleep. Prognosis of the child is very poor.

DISCUSSION

Wilms tumor is the most common abdominal tumor in children. It is an embryonic tumor derived from primitive renal epithelial and mesenchymal components. The tumors often develop quite large before being noticed and most of them are unilateral. In this case symptoms were abdominal pain (on & off) and low grade fever (on & off) since 1 month. There was abdominal swelling and small lump can be palpable on right side of abdomen. If the child is diagnosed with hypertension, it could be another clinical sign of a kidney tumor. In presented case blood pressure of the child was normal. Wilms' tumor can also run in families. In this case patient was not having any family history of wilms tumor. Screening for Wilms' tumor is very important for the child who has syndromes, birth defects or a family history.

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