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BRIEF REPORT
Dramatic Response of Adult Wilms Tumor to Paclitaxel and Cisplatin

Ramesh K. Ramanathan, MD,[1]* Joshua T. Rubin, MD,[1] N. Paul Ohori, MD,[2] and Chandra P. Belani, MD[1]

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Adult Wilms tumor, a rare entity, has a poor prognosis, with 3 year survival of 67% reported by the National Wilms Tumor Study (NWTS) in 1990 [1]. In children the combination of vincristine and dactinomycin with or without doxorubicin is commonly used to treat Wilms tumor, but in adults there are no established guidelines. Newer agents are being tested and single-agent activity has been demonstrated for carboplatin, ifosfamide, and etoposide [2–4]. Etoposide in combination with either ifosfamide or carboplatin has also shown activity as salvage therapy [5,6].

Our experience with an adult who had massive disease at diagnosis and who responded dramatically to paclitaxel and cisplatin is of interest. She was a 23-year-old white female, who presented with a 6 month history of an enlarging lump in the left side of the abdomen, back pain, increasing shortness of breath, and a 13.6 kg weight loss. On presentation the patient appeared acutely ill and was in severe respiratory distress. The pulse was 110/min and blood pressure 106/64 mm Hg. The trachea was deviated to the right. Examination of the chest showed dullness to percussion, and absent breath sounds over the entire left hemithorax. An irregular mass occupied the left side of the abdomen. There was no palpable adenopathy. Examination of the heart and nervous system was normal.

Computerized tomography (CT) of the chest and abdomen showed a mixed-attenuation mass 33 × 18 cm in size occupying the left mid abdomen, with displacement and compression of the abdominal viscera. The mass extended to the left hemithorax, resulting in complete collapse of the left lung. The heart was displaced to the right. The origin of the mass could not be ascertained by clinical or radiologic examination (Fig. 1). A percutaneous abdominal fine-needle aspiration demonstrated numerous neoplastic small columnar cells embedded in a fibrous stroma. Laboratory investigations were remarkable only for a hematocrit of 31.1%, with the rest of the complete blood count, electrolytes, liver function tests, α-fetoprotein, and human chorionic gonadotropin (β subunit) levels within the normal range.

The lesion was labeled as carcinoma of unknown primary site. The patient's condition appeared critical, and consideration was given for palliation only. After extensive discussion with the patient, family members, and involved medical and surgical oncologists, chemotherapy with the combination of paclitaxel and cisplatin was chosen, because these agents have demonstrated activity in a wide variety of neoplasms, such as those of breast, ovary, and lung origin. Paclitaxel (175 mg/m^2) was given intravenously over 3 hours, followed by cisplatin 100 mg /m^2 over 2 hours, with cycles repeated every 3 weeks. The first cycle was complicated by tumor lysis syndrome and azotemia, which was treated with intravenous fluids and subsequent return to baseline renal function. Cycles 2, 3, and 4 of chemotherapy were given as scheduled without incident. Her 24-hour urinary creatinine clearance, prior to cycle 5, was 37 cc/min, and it was decided to substitute carboplatin for cisplatin. The dose of carboplatin was based on Calvert's formula [7] using a target area under the curve (AUC) of 6 mg.ml/min. The dose of paclitaxel was not changed. Cycle 5 and 6 of chemotherapy with carboplatin and paclitaxel were given every 3 weeks without adverse effect. At this point the tumor was still thought to be inoperable by the surgeons, and it was decided to continue chemotherapy in the hope of securing further tumor shrinkage. Single-agent paclitaxel 175 mg/m^2 was given intravenously over 3 hours, and cycles were repeated every 3 weeks for a total of nine. CT scans at this point revealed the tumor size to be 9 × 6 cm, with persistent left pleural thickening (Fig. 2). A video-assisted thoracoscopic biopsy of the left pleura showed fibrotic tissue without any evidence of malignancy. Exploratory laparotomy followed, and the tumor was found

[1]University of Pittsburgh Cancer Institute, Pittsburgh, Pennsylvania

[2]Department of Pathology, University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania

*Correspondence to: Ramesh K. Ramanathan, MD, University of Pittsburgh Cancer Institute, N 7.55-4, MUH, 200 Lothrop St., Pittsburgh, PA 15213. E-mail: ramanathanrk@msx.upmc.edu

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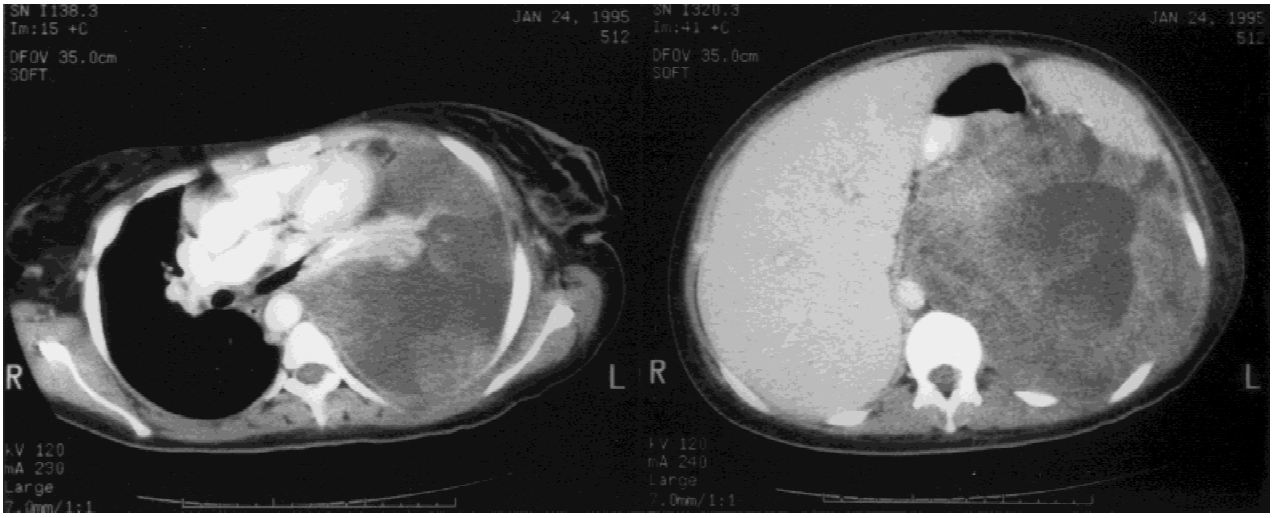

Fig. 1. CT scans of the chest (**left**) and abdomen (**right**) show a mass measuring 33 × 18 cm occupying the left side of the abdomen and extending to the left hemithorax. The mass displaces abdominal contents and heart to the right side.

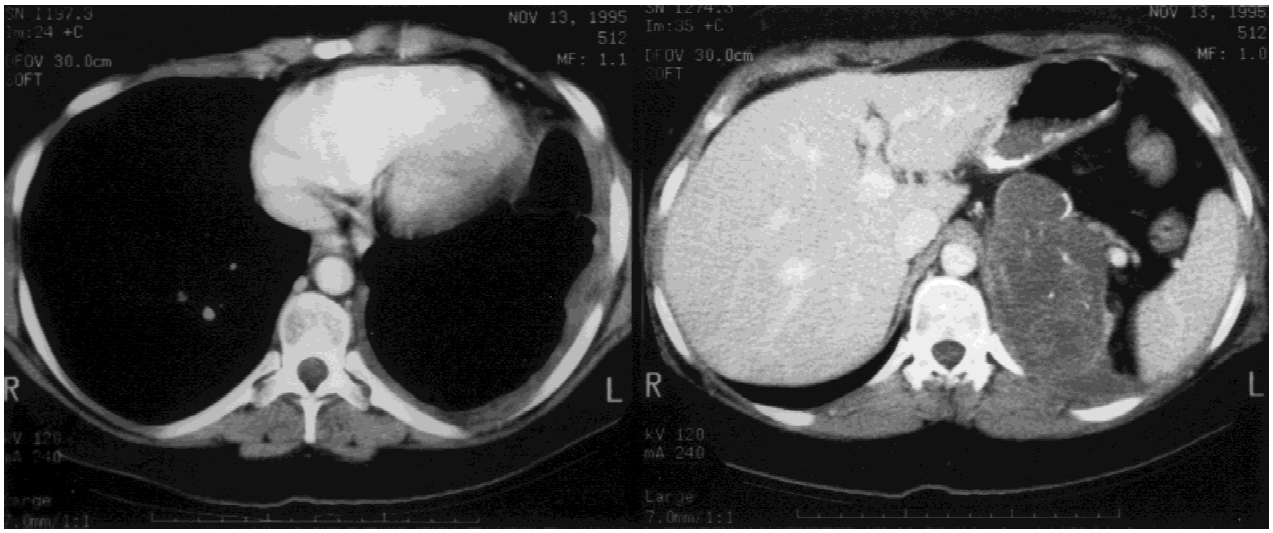

Fig. 2. CT scan of the chest (**left**) and abdomen (**right**) 2 weeks after cycle 9 of paclitaxel. The patient had also received six cycles of platinum and paclitaxel. The tumor size was reduced to 9 × 6 cm, with persistent left pleural thickening.

to originate in the upper pole of the left kidney. It was adherent to but not invading the stomach, diaphragm, spleen, and pancreas. There was no ascites, and the liver appeared normal. The tumor was dissected off the adherent structures and removed completely with part of the posterior leaf of the left diaphragm, left adrenal gland, and upper pole of the left kidney. The resected retroperitoneal tumor was 14 cm in greatest dimension, and weighed 410 g. Numerous fibrous adhesions were recognized on the surface, which was otherwise smooth. On cut section the tumor was predominantly necrotic, with intervening viable neoplastic tissue, irregular fibrous bands, and fibroadipose tissue. The necrosis was thought most likely to be secondary to chemotherapy. On histologic examination, the diagnosis of Wilms tumor of favorable histology became apparent, with viable areas showing epithelial differentiation, with tubule formation, blastema, and typical stroma. The patient received postoperative radiotherapy for a total of 4,050 cGy in 27 fractions to the tumor bed, the dose to the adjacent tissue in the upper abdomen being limited to 3,000 cGy. Four months after laparotomy, CT scans of the chest revealed a 0.8 cm nodule in the right middle lobe of the lung. This was resected, and pathology revealed metastatic Wilms tumor. The surgical margins were free of tumor. Postoperative radiotherapy to the chest was not given. Subse-

quently the patient received chemotherapy with a combination of doxorubicin, vincristine, and dactinomycin for four cycles. At present, she remains free of disease by clinical and radiological evaluation, 55 months after initial presentation.

DISCUSSION

Our patient was initially treated with a paclitaxel-based regimen, because she had a primary cancer of unknown histologic type. The rapid response seen with tumor lysis after the first cycle indicates that the combination of paclitaxel and platinum may be active in adults with Wilms tumor. Paclitaxel has not been tested adequately in children with Wilms tumor; in two children with refractory Wilms tumor, a response was not documented [8,9]. Adult patients such as ours illustrate the need for an aggressive multimodality approach to achieve a successful outcome. More experience is needed to evaluate the activity of paclitaxel as a single agent and in combination with platinum-containing components in both adults and children with Wilms tumor.

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