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# Perirenal Hematoma, a Mimicking Wilms' Tumor*

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The type of abdominal mases localized in the renal fossa vary according to the age of the patient. Hydronephrosis is the most frequent cause during infancy, while under 5 years of age Wilms' tumor and neuroblastoma take the first two places.[1,2] On the other hand, perirenal hematoma (PH) is a very rare cause of the abdominal masses in children. This entity was described for the first time in 1856 by Wunderlich.[7] In 1933 Polkey and Vyhalek reported 178 collected perirenal and renal hematoma cases;[4] only 4 of them were under 10 years of age, and one was probably the first described as adrenal pseudocyst due to birth trauma.[5]

Hydronephrosis and neuroblastoma are considered as the most common problems in the differential diagnosis of the Wilms' tumor, while PH is not considered as a problem. It is differentiated from Wilms' tumor, without much difficulty because it bears the signs of "surgical abdomen". One of our cases operated on for Wilms' tumor was found to have PH which was diagnosed only after pathological examination. On having had such a diagnostic problem, we decided to report this chronic PH mimicking Wilms' tumor.

## *Case Report*

A 22 months old girl, admitted to the department of Pediatric Surgery of Hacettepe Children's Medical Center, had sign of abdominal enlargement and loss of appetite for 10 days. The abdominal enlargement was noticed on the left side. The family stated that the child had had excessive sweating for a week and occasional high temperatures; however, exact checkings were not available. No history of

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gross hematuria and/or abdominal pain was given. She was referred to our department by the family doctor for diagnosis and treatment of what was thought to be splenomegaly.

Physical examination at the time of admission showed a chronically ill looking child, with temperature 37.5°C, pulse rate 132/min., blood pressure 150/100 mm Hg and weight 11.800 kg. The left side of the abdomen was enlarged, a semi hard, regular mass, measuring approximately 14 x 16 cm in diameter, filling all of the left side of the abdomen could be palpated. No tenderness, pain or rebound pain was felt on palpation. The liver and right kidney were not palpable and there were no detectable lymphadenopathies.

Laboratory studies disclosed the following findings: hemoglobin 7.0 gr/dl, WBC count 9.800/ccmm, with 40 % polymorphonuclear leukocytes and 46 % lymphocytes: platelets were sufficient. The urine examination showed no protemuria and microscopic examination revealed 15-20 red blood cells and 5-6 leukocytes P. H. P. F. Blood chemistry values including BUN (32 mg/dl) and Urinary VMA levels were within normal limitis, no cystathione could be detected in the urine. The examination of the bone marrow showed no pathology. Chest X-ray was normal, plain X-ray of the abdomen showed a soft tissue mass filling the left half of the abdomen. IVP failed to visualize the left kidney (Figure 1). A probable diagnosis of Wilms' tumor or neuroblastoma was suspected.

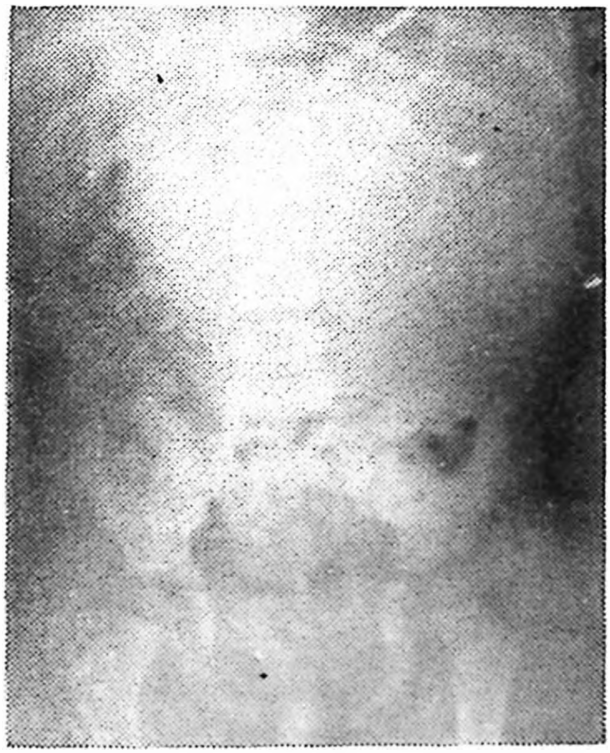

**Figure 1**
IVP of the patient

The patient underwent a laparatomy on the fifth day of her admission, a pinkish red retroperitoneal, well capsulated, soft mass measuring 20 x 15 cm was found to be attached to the interior vena cava abdominal aorta, diaphragm, spleen and particularly to the left adrenal gland. The ureter and renal vessels were coming out of this mass. In addition, the lymphnodes of the paraaortic chain were enlarged. The mass, including right suprarenal gland and ureter was completely removed. The excision of paraaortic lymphnodes was performed. The postoperative period was uneventful. The Blood pressure decreased rapidly and on the following day returned to normal levels (110/70 mm Hg). Gross examination of the mass showed: weight 860 gr. and size 19 x 13 x 11 cm. The left suprarenal gland was strongly attached to the mass, and in some parts, it was impossible to distinguish the mass from the gland. Dark red blood flowed while cutting the mass longitudinally. There remained the left kidney and a well developed capsula, 0.5 cm thick, in which " jelly" like clots were found. The kidney, yellowish in color, measured 9x5x4 cm. in size and was intact. Cross section of the kidney showed minimal dilatation of the collecting system and a kidney stone of 1 cm. in diameter (Figure 2). There was no neoplasm recognised in the specimen.

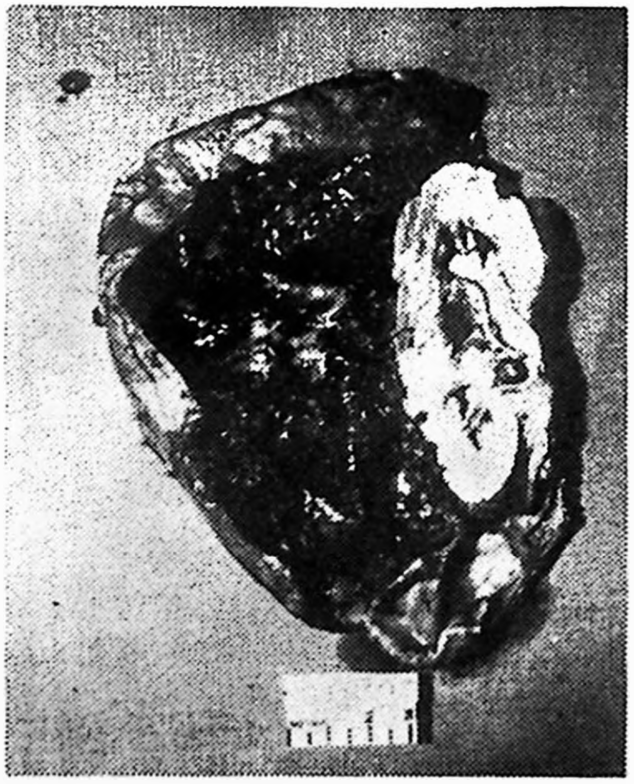

**Figure 2**
Cross section of the perirenal hematoma

Microscopic examination of the specimen showed a fibrous tissue and evidence of inflamation of the capsula. Slight inflamatory reaction

was also seen on the examination of the kidney. The lymphnodes which were removed showed reactive hyperplasia. No malignant cell was seen. The diagnosis was perirenal hematoma.

The parents were questioned more carefully, and admitted that the patient had fallen down on her back two weeks ago while playing.

The patient was discharged, in good health, on the twelfth day of admission.

## *Discussion*

The diagnosis and treatment of renal fossa masses are difficult in infancy and childhood. Under age 5, the three major causes are hydronephrosis, Wilms' tumor and neuroblastoma. Perirenal hematoma is a very rare cause of abdominal masses in this age group.[2] It usually follows major traumas to the kidneys resulting in hypovolemia, abdominal mass, pain, tenderness, rebound pain and also signs of "surgical abdomen". Major indications for surgical intervention are long duration, severity and resistance to treatment of hypovolemia.[3,6] Nephrectomy is the only treatment of choice. Medical treatment ends with the calcification of the resolving hematoma at the perirenal region. Rarely, organised hematomas cause constriction of the ureter and renal vessels and require treatment.[6]

It could be difficult to explain the formation of the capsula here in this case in the time period suggested by the family but it could be speculated that the physical signs which were detected upon admission are related to continuous bleeding which explains the hypertension as well.

In conclusion, we would like to stress on perirenal hematoma as one of the causes of abdominal masses in infancy and childhood mimicking Wilms' tumor.

## *Summary*

A case of perirenal hematoma mimicking Wilms' tumor is presented in a 22 months old infant. Details of the history are presented.

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