Fig. 5. Polyglonal, round-to-oval, or spindle-shaped tumor cells arranged in sheets with marked nuclear pleomorphism and frequent mitoses (H&E stain, 100X).

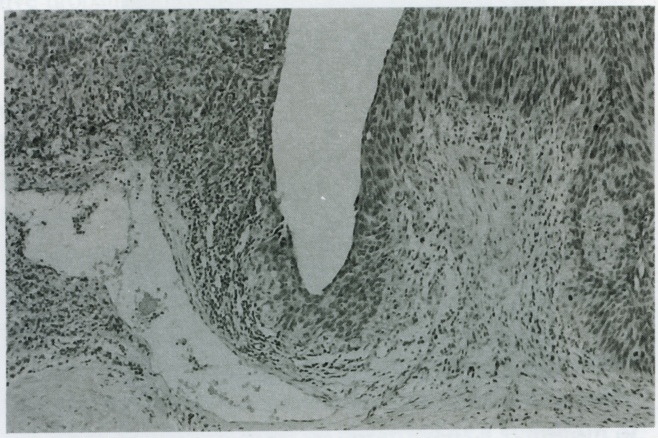

Fig. 6. Transformation of transitional cell carcinoma in papillary pattern to sarcomatoid pattern in the proximal portion of the ureteral tumor (H&E stain, 40X).

the ureter with involvement of the surgical margin of the bladder cuff (Fig. 4).

Microscopically, the renal, pelvic and distal parts of the ureter tumors showed a picture of sarcomatoid transitional cell carcinoma composed of polygonal, round-to-oval, or spindle-shaped tumor cells arranged in sheets with marked nuclear pleomorphism and frequent mitoses (Fig. 5). In a small area, scattered osteoclast-type giant cells intermingled with sarcomatous cells. Marked tumor necrosis as well as degeneration and infiltration of the renal capsule and perirenal fat were noted. The proximal portion of the ureteral tumor was a grade II-III/IV transitional cell carcinoma growing in a papillary pattern which abruptly transformed to sarcomatoid carcinoma (Fig. 6). Periureteral soft tissue invasion was noticed. The surgical margin of the urinary bladder cuff was not free from malignancy. Tumor thrombosis was present in the right renal vein. In addition, two hilar and one para-aortic lymph nodes were metastasized. The immunohistochemical study revealed diffuse positive staining for vimentin in the sarcomatoid area and occasional positive staining for cytokeratin (Fig. 7).

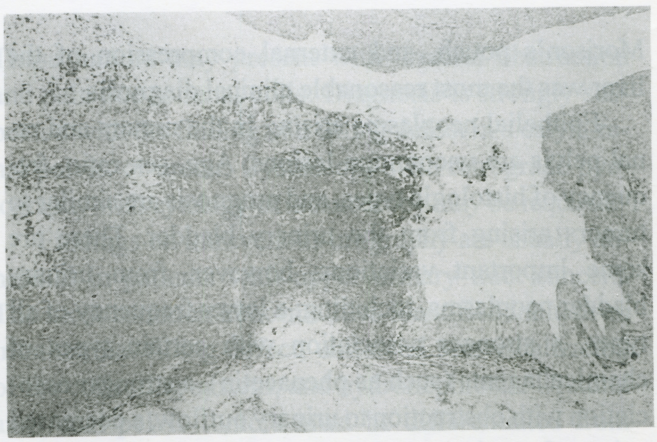

Fig. 7. Immunohistochemical study revealing diffuse positive staining for vimentin in the sarcomatoid area (vimentin stain, 40X).

An autopsy was performed on the patient. There was a recurrent whitish, solid, indurated tumor measuring 2 x 1.5 x 1.0 cm located at the urinary bladder near the right ureter orifice. The locally recurrent tumor also extended to the right pelvic wall and the right retroperitoneum with direct invasion to the right lobe of the liver, serosal surface of the gallbladder, and the diaphragm. Disseminated metastases of the intestines, rectum, mesentery, omentum, serosa surface of pylorus of the stomach, appendix, spleen, pancreas, left adrenal gland, and general lymph nodes were evident. The presence of tumor emboli in the bilateral lungs and the pericardium was also noticed. Marked turbid ascites with the presence of malignant cells (measuring 4000 c c), right pleural effusion, mild pericardial effusion, and peritoneal carcinomatosis were seen.

Microscopically, the recurrent tumor showed a picture of transitional cell carcinoma of sarcomatoid vari-