

in size scattered in the liver with vascular emboli. The right pleural cavity was filled with a large amount of bloody effusion (more than 1500 mL) and necrotic tissue resulting in marked adhesion of the right lung with the chest wall, diaphragm, and pericardium. The right lung was almost completely destroyed by numerous greenish-yellow tumorous masses and nodules measuring up to  $5 \times 3 \times 3$  cm in size with marked necrosis and hemorrhage. The left pleural cavity was filled with serosanguineous fluid (about 500 mL). Numerous yellowish tumorous nodules measuring up to  $1.5 \times 1.5 \times 1$  cm in size were seen in the consolidated and congested left lung. The pericardial cavity contained 10 mL of serous fluid. A few yellowish tumorous nodules measuring up to  $0.5 \times 0.4$  cm in dimensions were noted coating the parietal layer of the pericardium. A large volume of coffee-ground-like fluid was found in the stomach and duodenum. The gastric mucosa revealed markedly diffuse hemorrhagic erosion. The lumbar spine showed a yellowish metastatic tumor in the third and fourth vertebral bodies. The cerebrum weighed 1150 g. There was a small yellowish firm nodule measuring 0.8 cm in diameter in the dura near the sagittal sinus. There was no space-occupying lesion in the brain parenchyma.

Microscopically, the prostatic tumor showed a picture of rhabdomyosarcoma of embryonal type. It was made of ovoid and spindle neoplastic cells diffusely infiltrating the fibromuscular stroma with glandular destruction. Some neoplastic cells, especially in the periphery of the prostate, were strap-shaped and had

abundant granular eosinophilic cytoplasm with characteristic cross striations (Fig. 4). Mitotic figures were not uncommon. Vascular emboli were seen. Immunohistochemical study demonstrated that neoplastic cells were positive for vimentin, muscle-specific actin, and myoglobin (Fig. 5), indicating rhabdomyoblastic differentiation. The sarcoma directly invaded the urinary bladder and rectum. Bilateral seminal vesicles and vas deferens were encased by the sarcoma. Metastatic sarcoma was seen in the bilateral lungs, bilateral pleural cavities, pericardium, liver, spine, meninges, diaphragm, and lymph nodes of the neck and pulmonary hilum.

In summary, this is a case of embryonal rhabdomyosarcoma of the prostate with multiple metastasis via both hematogenous and lymphatic spreading. It runs a rapid and fatal clinical course (less than 3 mo from the appearance of initial symptoms to death). Pulmonary metastasis with extensive hemorrhagic necrosis contributed to respiratory failure, which was the direct cause of death.

Embryonal rhabdomyosarcoma of the prostate is a rare, highly malignant tumor that occurs mostly in male infants and children. Only sporadic cases of prostatic embryonal rhabdomyosarcoma in adults have been reported.<sup>1</sup> The clinical presentation is characterized by a rapid-growth tumor usually with formation of a large pelvic mass and eventual wide dissemination. Prostatic rhabdomyosarcoma is usually refractory to any treatment. Children with rhabdomyosarcoma usually have a better prognosis and a better response to treat-

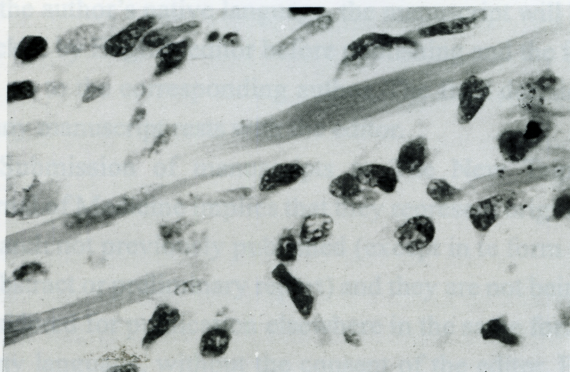


Fig. 4. Rhabdomyoblasts in embryonal rhabdomyosarcoma with cytoplasmic cross striation (H&E 1000X).

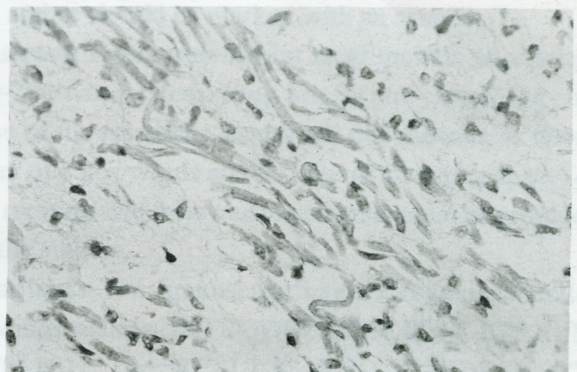


Fig. 5. Rhabdomyoblasts with positive cytoplasmic staining by anti-myoglobin antibody (IHC 400X).