PRIMARY MYXOSARCOMA OF LIVER

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Myxomatous tumors primary in the liver are rare. Beggiato (1) reports one occurring in the liver of a six-year-old girl, simulating abscess. The microscopic structure was very similar to that in the case reported here, although the tumor was much smaller.

Report of Case

A. B., a fifty-eight-year-old white male, entered the hospital shortly after the onset of severe generalized paroxysmal abdominal pain which was worse in the lower right quadrant. There was no previous history of abdominal distress or tumor.
The abdomen was distended and a mass was felt in the epigastrium. The temperature was 99.4° and the red and white blood counts were normal.

At laparotomy, shortly after admission, the upper abdomen appeared to be entirely filled by the greatly enlarged left lobe of the liver. This mass contained a large ruptured cyst from which a considerable amount of bloody fluid had drained into the peritoneal cavity.

The cyst was evacuated and a drainage tube inserted. A biopsy of the cyst wall showed the presence of mucoid connective tissue. The course was uneventful for the first week, but after this the drainage became scanty and foul, and the temperature rose. The patient continued to have a low-grade, septic type of fever, became progressively more emaciated and anemic, and died four months after the onset of the illness.

**Autopsy Findings:** The body was very emaciated, the weight being 45.3 kg. and the length 176 cm. There were no masses palpable in the subcutaneous tissues of the head, trunk, or extremities. The brain was not removed. The heart was normal except for epicardial edema and a few small areas of fibrosis in the myocardium. The lungs were both quite edematous and there was bronchopneumonia in the dependent portions.

The operative incision was healed except for a fibrous sinus leading through the abdominal wall into the lower border of the left lobe of the liver. The pyloric end of the stomach and the third portion of the duodenum were compressed by a mass in the liver. No tumors were found along the intestinal tract or in the retroperitoneal tissues. The pancreas was normal.

The liver weighed 2875 gm. The right lobe was normal in size and appearance. The left lobe was larger and heavier than the right, and its lower border extended 10 cm. below the left costal margin. The anterior surface of this lobe was smooth and of a dark red-brown color. The posterior surface was pale, and marked by smooth, glistening, firm, semitranslucent nodules 2 to 5 cm. in diameter. Broad sections through the lobe showed it to be almost entirely replaced by a soft, elastic, lobulated mass. This tumor tissue had a pale gray translucency which was noticeably clearer at the periphery of the lobulations.
Tenacious, colorless mucoid material could be scraped from the cut surface. The sinus left by the surgical drain extended 8 cm. upward into a narrow, irregular cavity within the tumor. The wall of this cavity was lined by gray necrotic membrane. A large bile-duct traversed the interior of the tumor from the left border to the porta.

The spleen, lymph nodes, genito-urinary system, thyroid, suprarenals, and the lumbar vertebrae were normal.

Microscopic Findings: A section from the right lobe of the liver showed normal structure except for slight fatty changes. The tumor in the left lobe was surrounded by a thin fibrous capsule. Sections taken from the anterior surface showed, superficially, a thin layer of compressed atrophic liver tissue.

The tumor had two sharply defined zones which differed considerably in appearance. The variation in histologic structure corresponded to the difference in the degree of translucency noted in the gross examination.

The peripheral zone consisted of spindle-shaped and stellate cells with long interlacing protoplasmic fibrils, separated widely by a finely granular material. The latter was seen only in the sections stained with mucicarmine. This portion of the tumor contained numerous tiny blood vessels and a few neutrophiles and round cells.

Deep to this zone were irregular areas of elongated cells with very little intercellular granular material. The blood vessels were larger than those in the peripheral zone and there was a moderate infiltration by polymorphonuclears and round cells. Scattered through these more cellular portions there were a few tiny bile-ducts, many of which contained dark green pigment. No mitotic figures were seen in any part of the tumor.

Comment

Myxomatous tissue is a derivative of connective tissue and can probably originate from the metaplasia of different types (2). The exact mode of origin of the tumor in the case reported, whether from embryonic connective
tissue continuing to grow in the liver or, by metaplasia, from adult hepatic connective tissue, cannot be determined.

The more malignant a myxomatous tumor is, the more cellular it is likely to be. In myxosarcomata it is quite characteristic for the portions containing large amounts of intercellular mucoid to be seen at the growing edges, while the central portions are more cellular and opaque (2). Because in such

Fig. 5. Mucoid Portions of the Tumor. × 700
tumors the mucoid material is ordinarily not demonstrable by the usual stains for mucin, as pointed out by Mallory in a personal communication, the question may arise whether they are not merely edematous sarcomata.

The large size and the presence of quite cellular central areas in the neoplasm here described indicate that it was actively growing. The definite capsule, the uniformity of size of the cells, and the absence of mitotic figures or metastases indicate that it was essentially benign.

**Note:** We are indebted to Dr. Carl G. Williams of Santa Monica for information regarding the onset of the illness and the surgical findings in this case.

**References**
