

Carcinosarcoma of the gallbladder

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Summary. The case of a 60-year-old woman with a five-year history of abdominal pain, jaundice, and weight loss is presented. On physical examination a hard mass on her right flank was evident. She died under unknown circumstances while she was waiting to be examined.

At post-mortem examination the gallbladder was replaced by a neoplasm and there were gallstones within its lumen.

Histologically, the tumour was constituted by a mixture of adenocarcinoma, squamous cell carcinoma and undifferentiated sarcoma. The diagnosis of carcinosarcoma of the gallbladder was established. A review of previously reported cases is presented too.

Key words: Carcinosarcoma - Gallbladder - Malignant mixed tumor

Introduction

Carcinoma of the gallbladder is a common neoplasm in Mexican population (Albores-Saavedra and Altamirano-Dimas, 1971); it is most frequent in females between the fifth and seventh decades of life and it has an overcast prognosis related almost always to its staging (Nevin et al., 1978). In a high percentage of the cases it is associated with chronic cholecystitis and cholelithiasis (Albores-Saavedra et al., 1980).

On the other hand, primary sarcomas of the gallbladder form a heterologous and uncommon group of neoplasms (Yasuma and Yanaka, 1971; Carpentier and Lambilliotte, 1973) that, although having a mesenchymatous origin, share common clinical characteristics with those of epithelial origin, so it has been suggested that in both

types, the etiopathogenic mechanisms are the same.

Among all histological types of carcinoma of the gallbladder, adenocarcinoma -well, moderately and poorly differentiated- constitutes the majority of the cases reported in the literature (Shieh et al., 1981; Brandt-Rauf et al., 1982) and studied in any pathology laboratory. Occasionally, rare histological types of tumours have been described as carcinosarcoma (Appelman and Coopersmith, 1970; Albores-Saavedra et al., 1981; Higgins and Turner, 1979, Higgs et al., 1973; Mansori and Cho, 1980; Von Kuster and Cohen, 1982).

From the post-mortem files of the Pathology Department at Hospital General de México, S.S., and at Faculty of Medicine, U.N.A.M., 114 cases of primary neoplasms of the gallbladder were studied (Albores-Saavedra et al., 1980); in this material a case of carcinosarcoma was included which is the subject of this communication.

Materials and Methods

A 60-year-old woman attended the Hospital General de México, S.S. for consultation, because of an illness of five years duration characterized by abdominal colic pain which irradiated to both scapular regions, fever and diaphoresis. Six months before the pain became localized in both flanks, and after a month the patient noticed a hard mass on her right flank as well as malaise and weight loss, that at the time of her death amounted to 20 kg. She also referred to occasional evacuation of yellow gallstones about 2 cm in diameter; three months later, she presented melena and acholia. On physical examination she was cachectic and jaundiced; on her right flank a hard and painful tumor was palpated, which had displacement with breathing. The serum alkaline phosphatase was 1575 mU/ml; other laboratory data were normal. X-ray studies were not obtained. She was referred to the Oncology Service at the same hospital, with the clinical diagnosis of colonic carcinoma and cholelithiasis; she died under unknown circumstances

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while she was waiting at the outpatient clinic. An autopsy was performed.

Results

Skin and mucous and serous membranes were icterical. The gallbladder was substituted by a neoplasm which measured 15 x 6 x 6 cm; its outer surface was somewhat granular and opaque. On section, it was solid and showed irregular, but well-defined yellowish-white nodules, which varied in size. They protruded toward the gallbladder lumen where there were also oval mixed gallstones which occluded the common bile duct and the hepatic ducts. The biliary tract was greatly dilated above the occlusion. The liver was increased in volume and weight; on section there were multiple abscesses which

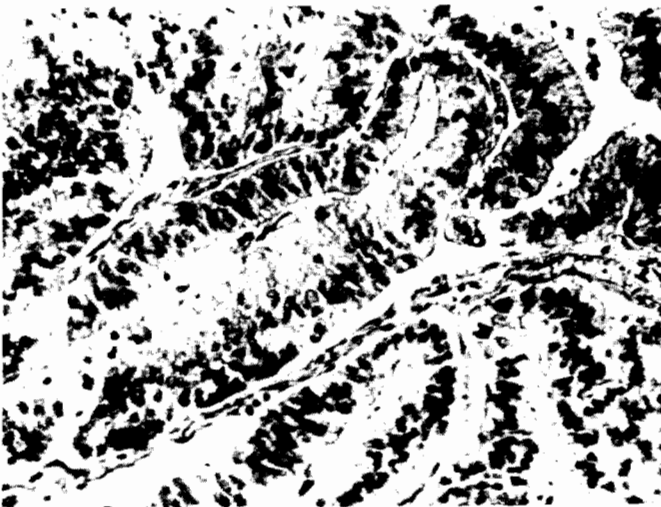


Fig. 1. One of the epithelial components of the tumor is represented by moderately well-differentiated adenocarcinoma. HE. $\times 380$

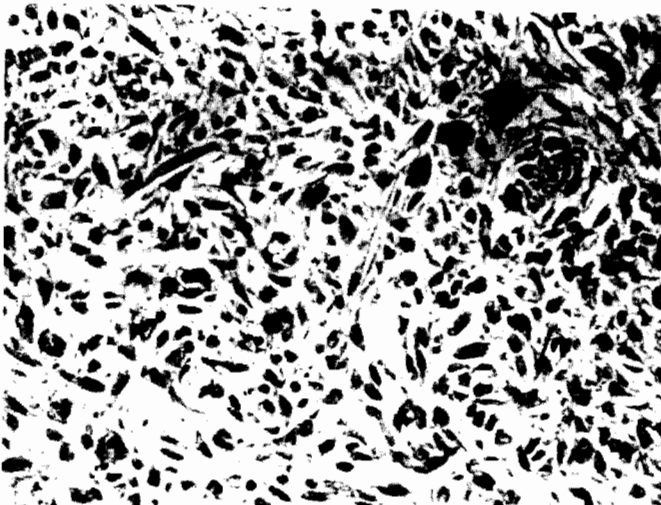


Fig. 2. Monstrous neoplastic cells are seen within the mesenchymatous component of the neoplasm. HE. $\times 380$

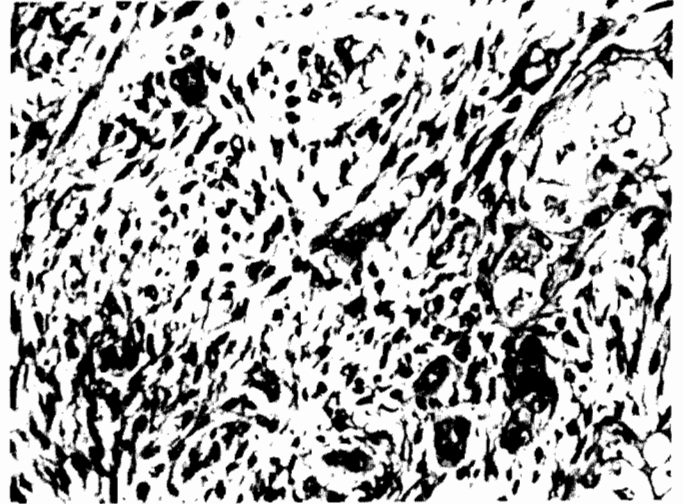


Fig. 3. Sheets of squamous cell carcinoma are surrounded by a sarcomatous stroma. HE. $\times 240$

contained a great quantity of purulent material. Stomach, second portion of the duodenum and transverse colon were firmly attached to the gallbladder tumor; there was a small fistula about 1 cm in length between the tumor and the transverse colon. There were no regional or distant metastases. On histological sections, this tumor was constituted by epithelial and mesenchymatous malignant elements. The epithelial component was represented by tubular and gland-like structures which showed squamous metaplasia; cells varied in shape between cuboidal to polyhedral, with a large amount of eosinophilic cytoplasm, hyperchromatic nuclei and scarce atypical mitosis (Fig. 1). In other areas, there were sheets of dyskeratotic cells with nuclear atypia. The cells from the mesenchymatous component were fusiform and to some extent stellated, with scanty cytoplasm; the nuclei were large, with moderate mitotic activity and not infrequently showed atypical mitotic figures (Fig. 2). In some areas both epithelial and mesenchymatous malignant elements were intermingled (Fig. 3). Serous membrane of the gallbladder did not show invasion by any tumour cells. The liver had the changes of acute ascending cholangitis. The following diagnosis were established: carcinosarcoma of the gallbladder and cholelithiasis, in addition to abscessed acute ascending cholangitis.

Discussion

Virchow was the first to introduce the term carcinosarcoma in the medical literature, in order to designate those tumors which showed a mixture of epithelial and mesenchymatous malignant elements (Wolfensberger, 1971).

Carcinosarcoma of the gallbladder is an extraordinarily rare tumor and no more than seventeen cases have been reported at the present time since Landsteiner published the first one (Edmonson, 1967). It affects females in the seventh and eighth decades of life more frequently. The clinical symptoms, its relation to

chronic cholecystitis and cholelithiasis as well as the distribution of the metastases, have a great resemblance to ordinary adenocarcinoma. In over half of the known cases, including the present case, the tumor was confined to the gallbladder, while in the remainder there was extension and metastases to the liver as well as metastases to regional and distant lymph nodes.

Some of the authors that have studied this type of neoplasm, have proposed a division into two histological entities. The homologous carcinosarcoma, in which the epithelial component is represented by adenocarcinoma and/or squamous cell carcinoma; the sarcomatous component that could be either undifferentiated as in the present case, or derived from the stroma normally present in the gallbladder wall. On the other hand, the heterologous carcinosarcoma or malignant mixed tumor of the gallbladder, in which in addition to epithelial elements, the mesenchymatous component could include areas of osteogenic sarcoma and/or chondrosarcoma (as in the most of the informed cases), fibrosarcoma and rhabdomyosarcoma. The distinction is of little use, because in addition to their similarities with regard to clinical picture, biological behavior and prognosis, according to Mehrotra (1971) they correspond to the same entity with different morphological expressions.

Several theories have been proposed in order to explain the histogenesis of carcinosarcoma of the gallbladder (Wolfensberger, 1971; Roth Von Jugen et al., 1972; Higgs et al., 1973; Lorenz, 1974) but probably the most widely accepted is that in which both epithelial and mesenchymatous neoplastic elements are derived from a common cellular line.

A careful differential diagnosis must be carried out since there are other primary gallbladder tumors that could occasionally resemble carcinosarcoma, but if they are adequately sampled and thoroughly studied their histological characteristics can be correctly interpreted (Appelman and Coopersmith, 1970).

From our standpoint, the term malignant mixed tumor of the gallbladder should be avoided, as has been previously discussed there is not a true connotation which justifies a distinction from carcinosarcoma of the gallbladder and also by the fact that it is a misnomer used to describe tumors in other organs, and although they are macroscopically and histologically similar, their histogenesis are not related.

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References

- Albores-Saavedra J., Alcántara-Vázquez A., Cruz-Ortiz, H. and Herrera-Goepfert R. (1980). The precursor lesions of invasive gallbladder carcinoma: hyperplasia, atypical hyperplasia and carcinoma in situ. *Cancer* 45, 919-927.
- Albores-Saavedra J. and Altamirano-Dimas M. (1971). Algunas consideraciones sobre 9412 autopsias realizadas en el Hospital General de México, S.S.A. *Gac. Med. Mex.* 102, 4-14.
- Albores-Saavedra J., Alcántara-Vázquez A., Cruz-Ortiz H. and Henson D.E. (1981). Unusual types of gallbladder carcinoma. *Arch. Pathol. Lab. Med.* 105, 287-293.
- Appelman H.D. and Coopersmith N. (1970). Pleomorphic spindle cell carcinoma of the gallbladder. *Cancer* 25, 535-541.
- Brandt-Rauf P.W., Pincus M. and Adelson S. (1982). Cancer of the gallbladder: a review of forty-three cases. *Human Pathol.* 13, 48-53.
- Carpentier Y. and Lambilliotte J.P. (1973). Primary sarcoma of the gallbladder. *Cancer* 32, 493-497.
- Edmonson H.A. (1967). Tumors of the gallbladder and extrahepatic bile ducts. Atlas of tumor pathology. Armed Forces Institute of Pathology, Washington D.C. Section 7, Fasc. 26.
- Higgins G.A. and Turner J.A. (1979). Mixed tumor of the gallbladder. *Arch. Surg.* 78, 173-176.
- Higgs W.R., Mocega E.E. and Jordan P.H. (1973). Malignant mixed tumor of the gallbladder. *Cancer* 471-475.
- Mansori K.S. and Cho S.Y. (1980). Malignant mixed tumor of the gallbladder. *Am. J. Clin. Pathol.* 73, 709-711.
- Mehrotra T.N., Gupta S.C. and Naithani Y.P. (1971). Carcinosarcoma of the gallbladder. *J. Pathol.* 104, 145-148.
- Nevin J.E., Moran T.J., Kay S. and King R. (1978). Carcinoma of the gallbladder: staging, treatment and prognosis. *Cancer* 37, 141-148.
- Roth Von Jugen, Machnick G. and Stiller D. (1972). Das karzinosarkom der gallenblase. *Zbl. Allg. Pathol.* 116, 545-550.
- Shieh C.J., Dunn E. and Standard J.F. (1981). Primary carcinoma of the gallbladder: a review of a 16 year experience at the Waterbury Hospital Health Center. *Cancer* 47, 996-1004.
- Von G. Lorenz. (1974). Karzinosarkom der gallenblase. *Zentralbl. Chir.* 99, 1658-1660.
- Von Kuster L.C. and Cohen C. (1982). Malignant mixed tumor of the gallbladder. *Cancer* 50, 1166-1170.
- Wolfensberger Ch. (1971). Karzinosarkom der gallenblase. *Schweiz. Med. Wschr.* 101, 335-338.
- Yasuma T. and Yanaka M. (1971). Primary sarcoma of the gallbladder. *Acta Pathol. Jap.* 21, 285-304.

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