

## Liver Metastasis From Cervical Cancer Presenting as a Solitary Cystic Lesion – A Rare Presentation



### Medical Science

**KEYWORDS :** Liver metastasis, Cervical cancer, Solitary cyst.

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### ABSTRACT

*Metastatic tumors are the most common malignant tumors in the liver (98%). The incidence of liver metastasis in cervical carcinoma is uncommon with a reported incidence of 2.2%. The incidence of isolated liver metastasis without involvement of other sites is still rare in cervical cancer with an incidence of 0.3%. Grossly, the vast majority of metastatic tumors are multiple masses of varying sizes and are present in both liver lobes. Areas of necrosis present within the tumor may cause a cystic appearance on imaging.*

*A 45 year old female came with complaints of swelling in the epigastric region. Patient had history of cervical cancer 5 years back, was operated and had taken chemotherapy. Provisional diagnosis of parasitic cyst was given. Microscopy revealed features consistent with diagnosis of metastatic squamous cell carcinoma. Immunohistochemistry was diffusely positive for CK 5 and CK 6 as well as focally positive for CK 19, thus confirming its origin from the cervical cells.*

### INTRODUCTION:

Metastatic tumors are the most common malignant tumors in the liver (98%). Common sites of primary include colon, upper gastrointestinal tract, breast, lungs and solid tumors. Modes of metastatic spread include hematogenous (most common), lymphatic, or through peritoneal fluid. The majority of patients with liver metastases show signs and symptoms referable to the liver, including hepatomegaly, right upper quadrant abdominal pain, anorexia, and weight loss. Biliary obstruction and acute hepatic failure may occur<sup>(3)</sup>.

Metastasis from carcinoma cervix to liver occurs in 3% of the cases<sup>(4)</sup>. Ectocervical and endocervical epithelium contain keratin 19, and it is found in full thickness of squamous metaplastic epithelium. Keratin 5 is found in most non-keratinizing and all keratinizing squamous cell carcinomas of the cervix<sup>(1)</sup>.

Adult hepatocytes contain cytokeratin 8 and 18, and the epithelial cells lining the intrahepatic bile ducts express cytokeratin 7 and 19. Keratin 19 is absent in adult hepatocytes<sup>(2)</sup>.

### CASE REPORT:

A 45 year old female came with complaints of nausea, vomiting and swelling in the epigastric region. Patient had history of cervical cancer 5 years back, was operated and had taken chemotherapy.

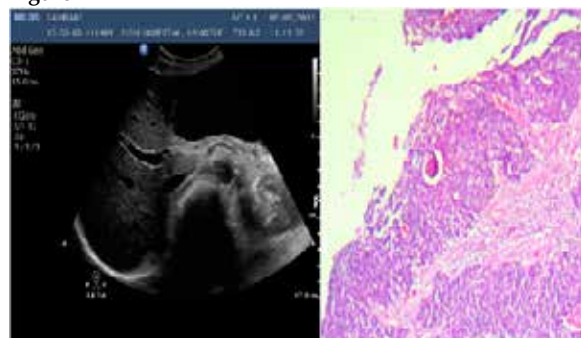
Ultrasonography of the abdomen showed a well defined cyst measuring 14.6 x 9.3 x 16.5 cm in the right hypochondrium extending up to the right kidney. CT-scan showed a large, uniloculated, well defined lesion with mildly enhancing pseudocapsule. No daughter cysts / calcification seen in liver. Provisional diagnosis of parasitic cyst was given.

On surgery complete left lobe of liver was found to be involved. Fragmented tissue bits from the cystic lesion were received for histopathological examination.

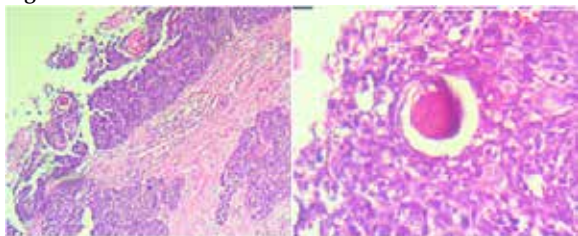
Microscopy revealed cyst wall lined by tumor cells arranged in nests, sheets and islands infiltrating into the underlying stroma amidst areas of necrosis and hemorrhage. The individual tumor cells were round to polygonal, showing moderate degree of nuclear pleomorphism, with round to oval nucleus having prominent nucleoli and moderate amount of eosinophilic cytoplasm. Also seen were well formed keratin pearls and few atypical mitotic figures. A diagnosis of metastatic squamous cell carcinoma was given. Special stains alcian blue and PAS were done which were found to be negative.

Immunohistochemistry was diffusely positive for CK 5 and CK 6 as well as focally positive for CK 19, thus confirming its origin from the cervical cells.

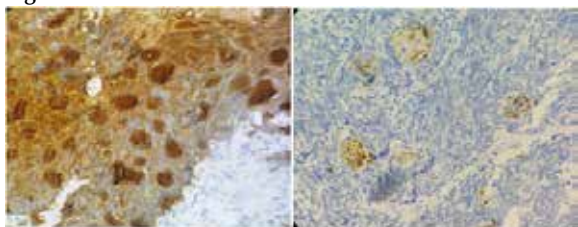
**Figure 1**



1: A-Ultrasonography image showing the hepatic cyst, B-10x magnification showing cyst wall lined by malignant cells and forming a keratin pearl.

**Figure 2**

2: A- 4x magnification showing cyst wall lined by malignant cells infiltrating into the underlying stroma, B- 40x magnification showing keratin pearl.

**Figure 3**

3: A- IHC CK 5,6 diffusely positive, B- CK 19 showing focal positivity.

## DISCUSSION

In a series of 8455 autopsies of adult patients with malignant tumors, 39% had liver metastases. Only 6% of these were solitary <sup>(9)</sup>.

This case represents a rare initial presentation of a patient of squamous cell carcinoma of uterine cervix with large isolated cystic hepatic metastases, which was misdiagnosed as parasitic cyst. The incidence of liver metastasis in cervical carcinoma is uncommon with a reported incidence of 2.2%. The incidence of isolated liver metastasis without involvement of other sites is still rare in cervical cancer with an incidence of 0.3%.<sup>[5]</sup> Liver metastases are usually associated with other extrahepatic metastases with late stage carcinoma of cervix usually metastasizing to pelvic or para-aortic lymph nodes, lungs, and bones. If carcinoma cervix metastasizes to liver, it usually presents as multiple hepatic nodules of varying sizes, usually less than 10 cm in 80% of cases. <sup>[6]</sup> Moreover, cystic liver metastases are usually secondary to neuroendocrine tumors, ovarian and testicular carcinomas, or sarcomas.<sup>[7]</sup> On CT, presence of septations and mural nodules is significantly higher in cystic malignancies than in abscesses <sup>(8)</sup>.

Grossly, the vast majority of metastatic tumors are multiple masses of varying sizes and are present in both liver lobes. The tumor nodules may become quite large and fill the abdominal cavity. Areas of necrosis present within the tumor may cause a cystic appearance on imaging.<sup>(3)</sup> Grossly, most metastatic tumors in the liver form discrete masses that may locally elevate the capsule. Central necrosis with umbilication occurs in the larger lesions. A certain correlation exists between the site of the primary tumor and the gross appearance of the liver metastases. Well-differentiated squamous cell carcinomas result in very soft nodules because of necrosis and keratinization. <sup>(9)</sup>

FNAC was not advised in the patient as the clinicians suspected it to be a parasitic cyst. Only after histopathological evaluation was the true malignant nature of the lesion revealed. The immunohistochemistry further confirmed the

primary site to be cervix. And this was further supported by the patient's positive history for cervical malignancy five years ago.

On histologic examination, the metastatic tumors are typically similar to the primary, both in the tumor differentiation and stromal reaction<sup>(3)</sup>

Clinical history and imaging are obviously essential in the evaluation of primary sites. The use of IHC markers may be necessary if the primary cancer is not available for histological review or if the patient had multiple primary sites.<sup>(3)</sup>

## CONCLUSION

Metastases to the liver are generally from the lungs, pancreas, colon and breast. Genitourinary malignancies rarely metastasize to liver. However in such cases, thorough investigations should be done to exclude primary from genitourinary system particularly in females.

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## COMPETING INTERESTS

None

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