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Case Report

Primary Squamous Cell Carcinoma of the Liver: A Case Report

Masoud Moghtaderi [1], Gholam Reza Sivandzadeh [2,*], Bita Geramizadeh [3], Ali Reza Dehghan [4], Amir Anushirvani [1]

[1] Department of Internal Medicine, Gastroenterohepatology Research Center, Shiraz University of Medical Sciences, Nemazee Hospital, Shiraz, Iran
[2] Department of Internal Medicine, Gastroenterohepatology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran
[3] Professor of Pathology, Director of Nemazee Hospital Pathobiology Lab, Director of Shiraz Transplant Research Center, Department of Pathology, Shiraz University of Medical Sciences, Shiraz, Iran
[4] Assistant Professor, Radiology Department, Shiraz University of Medical Sciences, Shiraz, Iran

ABSTRACT

Primary squamous cell carcinoma (SCC) of the liver is a very rare entity and to the best of our knowledge only 35 cases have been so far reported worldwide. Squamous cell carcinoma is usually diagnosed in skin, head and neck, respiratory tract, esophagus, cervix, and rectum. However, it can rarely occur in the liver as a primary tumor. It has been reported to be associated with liver cysts, chronic inflammation of biliary ducts, and biliary stones. Primary SCC of the liver has an aggressive behavior and poor prognosis.

Herein, we reported a middle-aged lady presented with a hepatic mass. Biopsy of the mass revealed SCC and no primary source, other than the liver itself, could be found despite extensive examinations. That is why the tumor was considered to be a primary occurrence of SCC in the liver.

Keywords: Liver, Squamous cell carcinoma, Liver mass

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INTRODUCTION

Squamous cell carcinomas (SCCs) are a relatively common type of tumors emanating from malignant transformation of squamous cells. These tumors are seen in different organs of the body (1). SCCs are usually seen in skin, head and neck, respiratory tract, esophagus, cervix, and rectum.

Corresponding author:
Gholam Reza Sivandzadeh, MD
Department of Internal Medicine,
Gastroenterohepatology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran
Tel: + 98 71 36473236
Fax: + 98 71 36474316
Email: ghsivand@sums.ac.ir

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Although they could spread to the liver from the primary involved sites in the form of liver metastasis, they might uncommonly occur in the liver as a primary phenomenon. Primary SCC of the liver is a very rare phenomenon and about 35 cases have been reported worldwide in the English literature to the date of publication of this report (2).The first case of primary SCC of the liver was reported by Lami and colleagues in 1934 (3). Herein, we reported a case of primary SCC in a 50-year-old lady presented with a hepatic mass.

CASE REPORT

A 50-year-old lady presented with nausea, vomiting, and abdominal distention since about one month prior to her admission to the hospital. Her medical history was not significant. Main laboratory findings during her hospital stay are demonstrated in table 1. Abdominal sonography revealed an ill-defined heterogeneous mass-like lesion about 6 cm

Table 1: Labortory Findings

Test	Result	Unit	Normal range
WBC	11000	/mm^3	4000 - 10000
Hb	11.4	g/dL	12 - 14
Plt	670000	/mm3	150000 - 450000
FBS	130	mg/dL	80 - 120
BUN	25	mg/dL	7 - 20
Cr	1.3	mg/dL	0.5 - 1.1
AST	23	u/L	10 - 30
ALT	8	u/L	10 - 30
ALKP	1350	u/L	44 - 147
PTT	34	Sec	35 - 45
PT	15.3	Sec	11 - 13.5
INR	1.32	Index	< 1.1
Billirubin (total)	1.2	mg/dL	< 1.2
Billirubin (Direct)	0.3	mg/dL	< 0.3
Albumin	2.6	g/dL	3.5 - 5.5
Calcium	8.7	mg/dL	8.5 - 10.5
Phosphrus	3	mg/dL	2.5 - 4.5
LDH	430	u/L	140 - 280
Alpha-fetoprotein (AFP)	2	ng/mL	0.8 - 8.7
CarcinoEmbryonic Antigen (CEA)	7.4	ng/ml	< 5
CA 19-9	2610	u/mL	< 37

in size in the hilum of the liver with pressure effect on common bile duct.

Moderate amount of free fluid was also noted in the abdominopelvic cavity. Abdominopelvic computed tomography (CT) was performed, which showed an ill-defined heterogeneous mass in the hilum and right lobe of the liver. The mass had evidence of central necrosis and irregular peripheral enhancement in arterial, portovenous, and delayed phases (figure 1). Considerably, encasement of both hepatic artery and portal vein by tumoral tissue was demonstrated as well (figure 2).

Paracentesis of ascitic fluid was performed. The result was in favor of low Serum-Ascites Albumin Gradient (SAAG) with neutrophil dominant pleocytosis, as shown in table 2.

Considering the presumed diagnosis of a malignant liver mass, tru-cut biopsy was done. Pathological review showed typical well differentiated SCC. This was confirmed by positive immunohistochemical (IHC) staining for P63 antibody (figure 3).

Extensive surveys were done to find a primary source other than the liver. Whole body skin examination was done by an experienced dermatologist. Thorough and sophisticated evaluation of the head, nose, pharynx, and neck including laryngoscopy was conducted by an attending specialist. None of these examinations came up with a conclusion. Spiral CT of the chest with contrast was normal. Endoscopy, and colonoscopy were done and no abnormality could be delineated in the esophagus and anorectal region. Furthermore, gynecological evaluation could not unravel a probable focus of SCC in the cervix and genital system.

At the end, as no primary origin could be found in other suspected organs of the body despite extensive evaluations, the tumor was considered as a primary occurrence of SCC in the liver.

In the hospital course the patient developed abdominal pain, inability to tolerate feeding, recurrent vomiting, jaundice, and itching. A common bile duct stent was inserted to maintain the bile flow

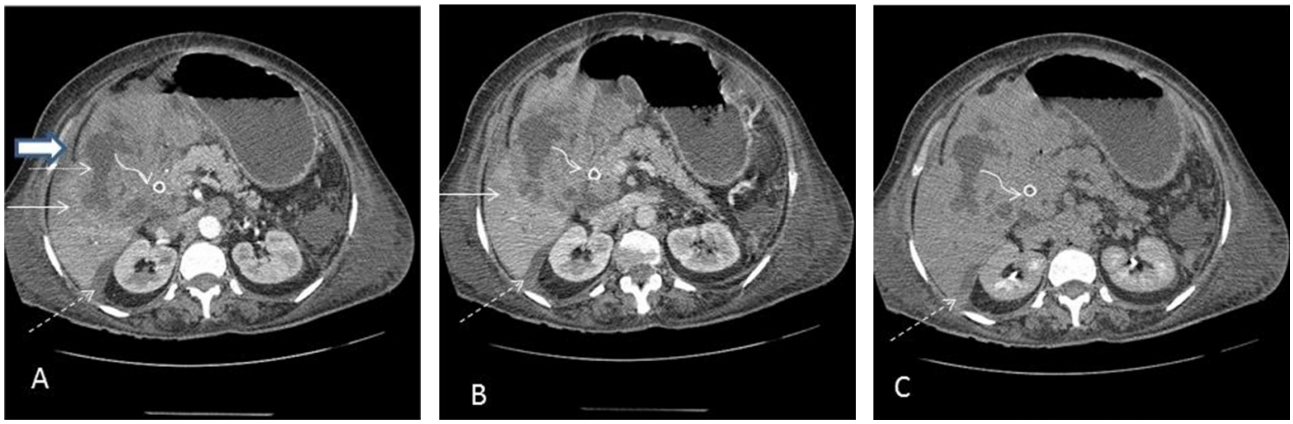

Fig.1: Primary hepatic squamous cell carcinoma in a 50-year-old woman. (a) Axial arterial phase contrast enhanced tomogram shows a large ill-defined heterogeneous mass lesion in the hilum and right lobe of the liver with capsular retraction (thick arrow), central necrosis (dotted arrow), and faint irregular peripheral enhancement (thin arrow). (b) Axial portovenous phase and (c) axial delayed phase show continuous peripheral enhancement [thin arrow in (b)] with faint central enhancement. There is also a stent in the common bile duct (curved arrows) and mild ascitic fluid (dash arrows).

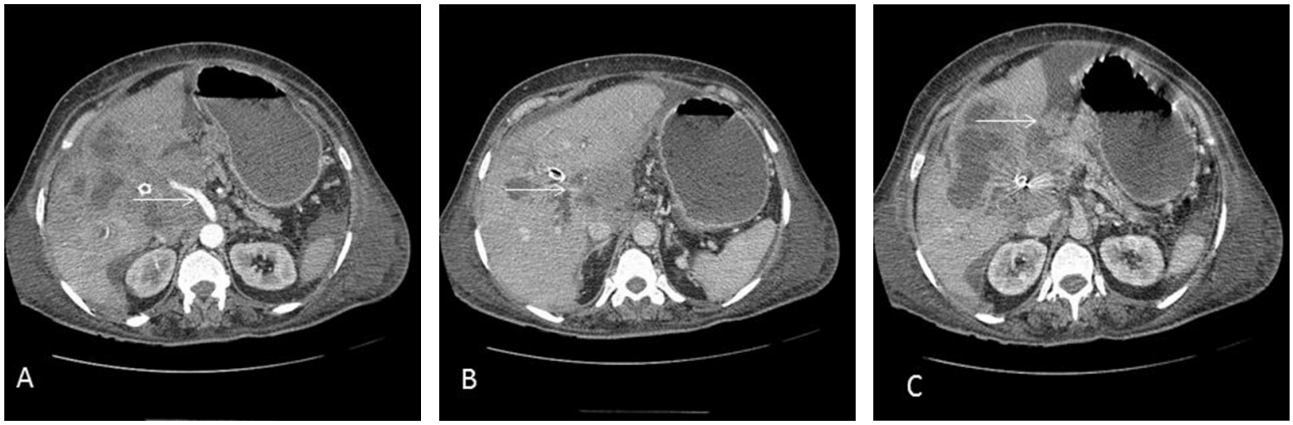

Fig.2: Primary hepatic squamous cell carcinoma in a 50-year-old woman. (a) Axial arterial phase contrast enhanced tomogram shows encasement of hepatic artery (arrow) by tumoral mass lesion. (b) Axial portovenous phase contrast enhanced tomogram shows encasement and narrowing of portal vein (arrow) by tumoral mass lesion. (c) Axial portovenous phase contrast enhanced tomogram shows a malignant lymph node (arrow) in the peripancreatic area.

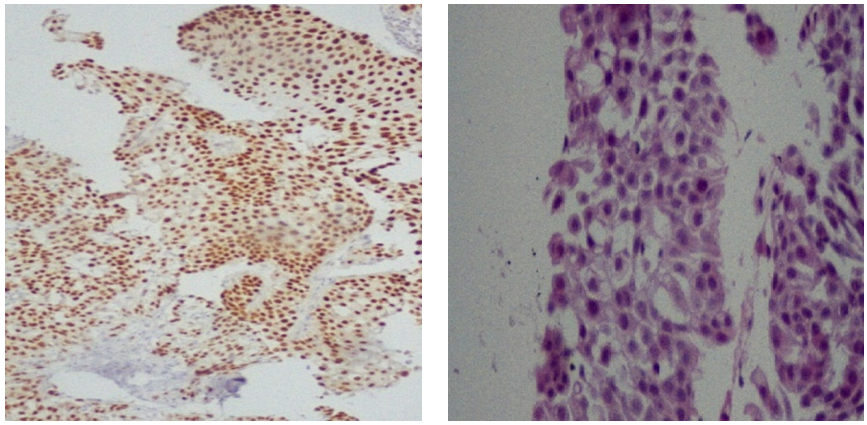

Fig.3: Sections from the liver show malignant tumour cells, which all are squamous and positive for P63 antibody. Left picture: immunohistochemistry for P63 antibody.

Table 2: Abdominal Fluid Analysis

Test	Result	Unit
Total cell count	3900	/mm^3
WBC count	3550	/mm^3
Segment	70%	
Lymphocyte	30%	
Glucose	60	mg/dL
Protein	2.8	gr/dL
Albumin	1.6	gr/dL
LDH	400	u/L
Blood albumin (simultaneous)	2.6	gr/dL
Blood glucose (simultaneous)	180	mg/dL
Blood LDH (simultaneous)	430	u/L
SAAG	Low	
Gram stain	Negative	
Culture	Negative	
Cytology	Negative	

and subside the symptoms of severe pruritus and obstructive jaundice. In this particular patient due to widespread extension of the tumor to adjacent organs, as documented by imaging studies, surgical approach was not in our plan. Chemotherapy with cis-diaminedichloroplatinum (CDDP) and 5- fluorouracil (5-FU) and irradiation were considered as the best therapeutic options. The patient's health status deteriorated during the hospital course and her family refused palliative treatments such as radiotherapy and pain control strategies. Ultimately, she died two weeks later because of sepsis.

DISCUSSION

Primary SCC of the liver is an uncommon malignancy with only 35 cases reported worldwide so far (2). The first case was reported in 1934 by Lami and colleagues (3). Main predisposing factors are liver cysts, biliary duct cysts, chronic inflammation of biliary ducts, and biliary stones (2,4-11). Transformation in the epithelial layer cells to malignant ones is one probable mechanism supposed to be involved in the pathogenesis of such tumors (2,12). Sustained irritation due to chronic inflammation could give rise to secondary squamous metaplasia and subsequent malignant transformation (2).

Primary SCC of the liver usually presents with pain, jaundice, weight loss, nausea, vomiting, abnormal liver function tests, and mass lesion in the liver (2,5).

Diagnosis of primary SCC of the liver is usually made after detecting a mass lesion in the liver in which pathology and IHC staining reveals SCC. Notably, other primary sources of SCC must be excluded via extensive but guided examinations (2). Evaluation of skin, head and neck, and cervix and CT of the chest and endoscopic evaluation of esophagus and anorectal area are mandatory for detecting any probable source of SCC, which can spread to the liver due to metastasis (2,6,7).

Primary SCC of the liver has an aggressive behavior with poor prognosis. Patients do not typically survive more than 1 year even with treatment (2,6,7). Due to the very low incidence of the disease, no treatment guidelines are available, but treatment options include surgical resection of the tumor, chemotherapy, transarterial chemoembolization (TACE), and radiotherapy (2,13,14). Surgical resection can lead to a good survival whenever there is no metastasis or extension of the tumor to adjacent organs. Complete disease remission after systemic chemotherapy with agents such as CDDP and 5-FU and surgery has been reported. Occasionally these chemotherapeutic agents are used as hepatic arterial injections with acceptable outcomes (2,8,10,13,15).

CONFLICT OF INTEREST

The authors declare no conflict of interests related to this work.

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