

**Case Report**

## Hepatic metastasis by a facial basal cell carcinoma of the skin.

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A patient with basal cell carcinoma who had undergone surgical resection of the primary lesion was discovered to have a liver metastasis. Complete resection of the primary lesion and lymphadenectomy had been performed nine years previously, and the liver tumor was an incidental finding during hospitalization for digitalis intoxication. The needle-biopsy specimen of the liver revealed basaloid carcinoma, and partial liver resection was performed. Eleven months postoperatively multiple liver metastases were detected, and the patient died at another hospital of wide-spread liver metastasis.

To our knowledge, basal cell carcinoma mainly develops in the skin of the face and tends to exhibit extensive local invasion. Hematogenous metastasis, however, is rarely seen in this type of skin cancer.

(Keywords : Basal cell carcinoma; liver metastasis)

### I Case report

The patient was a 77-year-old male with a past history of hypertension, renal dysfunction, paroxysmal atrial fibrillation, and heart failure. At 68 years of age he was found to have a small tumor, measuring approximately 1.2cm, on the left ala of the nose. The tumor was resected at a local hospital, and the histological diagnosis was basal cell carcinoma (BCC). In 2002, at 76 years of age, recurrence was diagnosed in both the left ala of the nose and the left cervical lymph nodes and the local recurrence and left cervical metastatic lymph nodes were resected. The histopathological diagnoses were local recurrence and lymph node metastasis by the BCC. The margin of the local resection specimen was negative.

The patient was under medical treatment for control of atrial fibrillation, and in April 2003, was hospitalized for digitalis intoxication. CT of the chest revealed pulmonary congestion and pleural effusion, which were considered to be attributable to the renal dysfunction. The image of the liver on the CT scan of the chest, revealed a tumor as an incidental finding. Further examinations were carried out to diagnose the liver tumor and to decide on the method of treatment, and in June 2003, the patient was admitted to the surgical department of our hospital.

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Table 1 Laboratory data

Peripheral Blood				Hepatitis Virus Markers			
WBC	2860/ul	BUN	64mg/dl	CBsAg	(-)		
RBC	$186 \times 10^4$ /ul	Cr	3.14mg/dl	HCVAb	(-)		
Hb	6.9g/dl	Amy	42IU/l				
Plt	$9.7 \times 10^4$ /ul	Na	140mEq/l	Tumor Markers			
Biochemistry				K	3.5mEq/l	SCC	0.9ng/ml
GOT	19IU/l	Cl	111mEq/l	CEA	6.7ng/ml		
GPT	8IU/l	Ca	8.9mg/dl	CA19-9	12.7ng/ml		
LDH	273IU/l	CRP	2.51mg/dl	AFP	3.2ng/ml		
TP	6.4g/dl						
T-bil	0.4mg/dl						

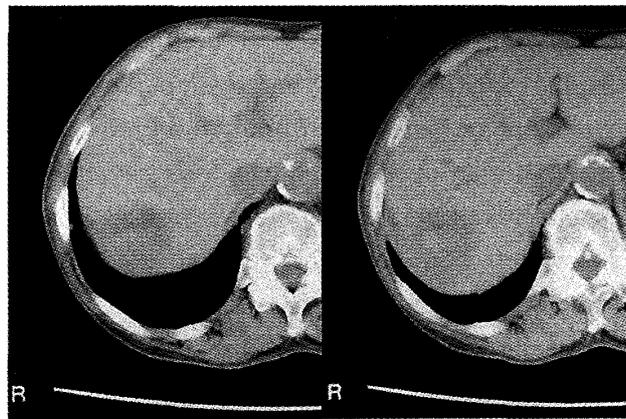


Figure 1 Abdominal CT: An abdominal CT scan showed a tumor measuring 3cm in diameter in the posterior superior sub-segment of the right lobe of the liver.

There were surgical scars on the left ala of the nose and in the left cervical region, but no tumors were detected in either region. On physical examination, the abdomen was flat, and no tumors were palpable. There was no hepatomegaly on palpation. Laboratory data showed severe anemia (RBC  $186 \times 10^5$ , Hb 6.9g/dl). BUN was 64mg/dl, and the serum creatinine level was 3.14mg/dl, indicating a moderate degree of renal dysfunction. The tumor markers CEA, CA19-9, and alpha-fetoprotein were within their normal ranges (Table 1).

An abdominal CT scan showed a tumor measuring 3cm in diameter in the posterior superior sub-segment of the right lobe of the liver (Figure 1). Contrast medium was not used because of the renal dysfunction. Abdominal ultrasonography was carried out one month later and showed a tumor measuring  $6.1 \times 4.6$ cm in the posterior superior sub-segment of the right lobe (Figure 2). The CT image showed cystic change in the middle of the tumor, suggesting necrotic change. Abdominal MRI showed a tumor that was low signal intensity on the T1-weighted sequence and high signal intensity on the T2-weighted sequence. MRI showed a fluid-fluid level in the tumor, suggesting the presence of an intratumoral hemorrhage (Figure 3).

The gastrointestinal tract and other intra-abdominal organs were examined for the possible presence of malignant tumors, but none were found.

The surgical specimen of the left nasal ala obtained at the time of the second operation

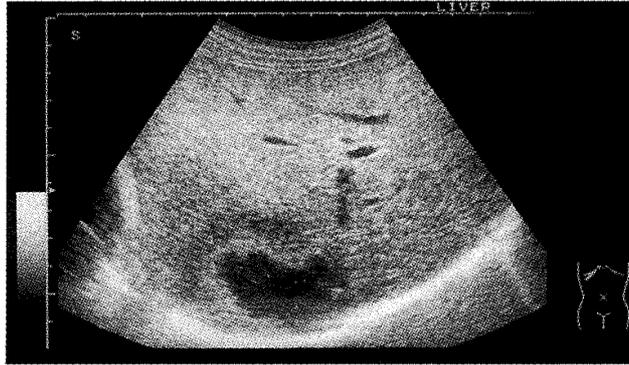


Figure 2 Abdominal ultrasonography: Abdominal ultrasonography was carried out one month later and showed a tumor measuring  $6.1 \times 4.6$  cm in the posterior superior sub-segment of the right lobe.

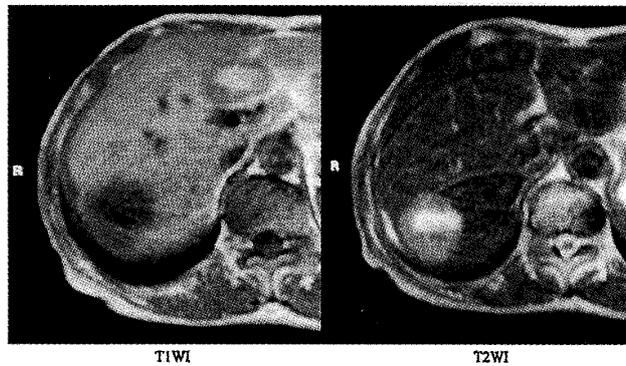


Figure 3 Abdominal MRI: Abdominal MRI showed a tumor that was low signal intensity on the T1-weighted sequence and high signal intensity on the T2-weighted sequence. MRI showed a fluid-fluid level in the tumor, suggesting the presence of an intratumoral hemorrhage.

showed tumor cell growth within the dermis, and the formation of medullary nests (Figure 4 a, b and c). There was keratinization in the center of the tumor, and basaloid cells with dark cytoplasm were present at the margin of the tumor. The histological appearance of the tumor in this area was consistent with that of basosquamous carcinoma. Because of these findings, a histological diagnosis of metastasis by basal cell carcinoma of the skin was made.

A needle biopsy of the liver to histologically diagnose the liver tumor revealed proliferation of basaloid cells arranged in cord-like structures with peripheral palisading (Figure 4d wide arrows), and there were foci of keratinization (Figure 4d thin arrows). Based on these findings, the liver tumor was diagnosed as a metastasis from the BCC of the nasal ala.

On July 11, 2003, local resection of the liver tumor was performed, and no major vascular systems were found to be involved by the tumor.

The resected tumor measured  $6.0 \times 5.0$  cm. The tumor was covered by a fibrous capsule that had been invaded by tumor cells, and its center showed massive necrosis. (Figure 5a). Histologically spindle-shaped tumor cells having a high nuclear-cytoplasmic ratio were seen in the cord-like structures, and the basaloid cells showed unclear peripheral palisading (Figure 5 b). There were foci of keratinization and cancer pearls in the tumor. The histological diagnosis was basal cell carcinoma (Figure 5c).

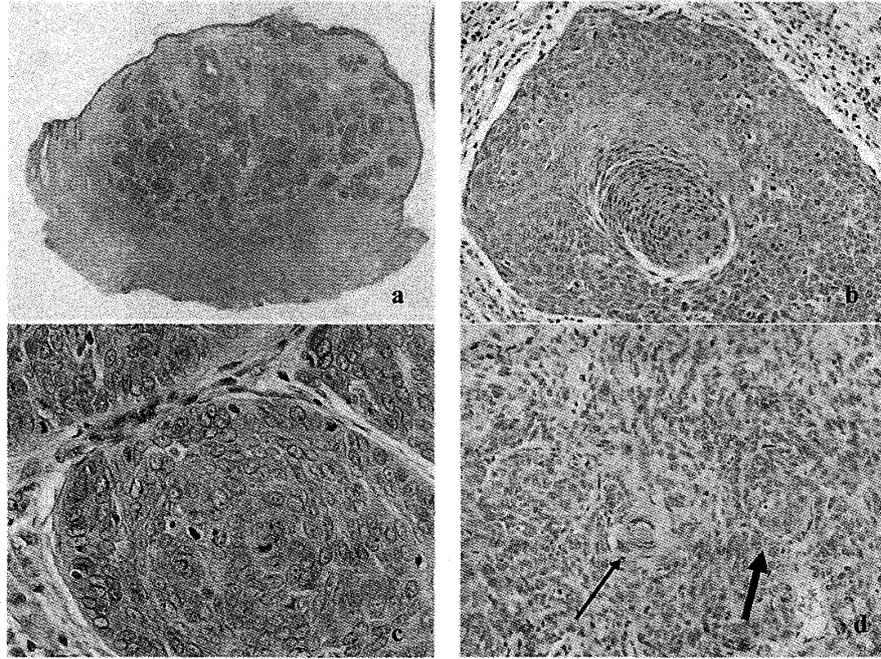


Figure 4 The resected specimen of the left side of the nasal ala obtained at the time of the second operation (a, b and c). And needle biopsy of the liver in this time (d).

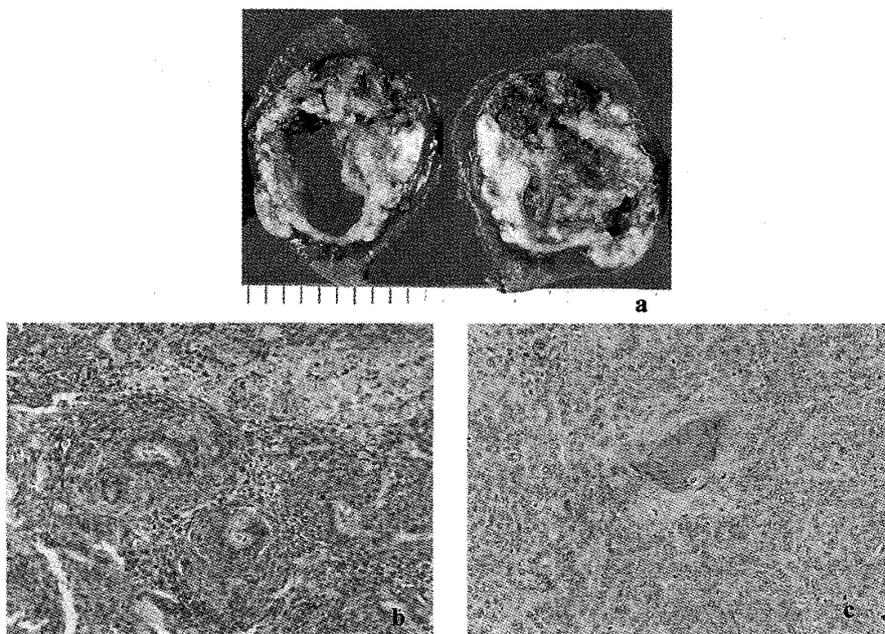


Figure 5 The resected tumor and the histological findings.

The postoperative course was uneventful except for the renal dysfunction, which necessitated hemodialysis and intensive care. The patient was discharged on the 19th postoperative day. In June 2004, the patient was found to have multiple liver metastases, and was followed up in another hospital. He died at the other hospital on June 22, 2004, about 11 months after hepatectomy. Permission for autopsy was refused.

## II Discussion

Basal cell carcinoma occurs mainly in the skin of the face. It tends to exhibit extensive local invasion, but metastasis is rare. The most frequent site of metastasis tumors is the lymph nodes, followed by the lung, and then bone. A review of the literature showed that liver metastasis account for 0.028%<sup>1)</sup> to 0.55%<sup>2)</sup> of cases of metastatic BCC.

Mikihail et al,<sup>3)</sup> reported the percentages of different types of metastasis in their review of 78 reported cases. According to their analysis, 46% were to the lymph nodes, 28% to the lung, 25% to bone, and 1% were to the liver, and metastasis has been reported to frequently occur in cases treated by underwent radiation therapy (68%) and multiple surgeries (81%). One possible reason for their developing metastasis is thought to be the presence of cancer cells with high grade malignancy that may have selectively survived during various treatments, such as radiation therapy or chemotherapy.<sup>4)</sup> Safai and Good<sup>5)</sup> suggested that an intact basement membrane might act as an effective barrier against metastatic spread of BCC, and destruction of this structure may be significant in promoting its spread. On rare occasions, multiple surgical procedures, radiation therapy, or other traumatic factors may facilitate access of the tumor mass to the circulation by breaking through the basement membrane barrier.

Several BCC subtypes, including morpheaform, infiltrating, and basosquamous, are often more extensive with higher clinical risk<sup>6)7)</sup>. The percentage of BCCs with aggressive histology ranged from 2.5 to 44%<sup>8)</sup>.

BCC metastasis occurs either by the lymphatic or the hematogenous route. The first metastasis is usually to the regional lymph nodes, and is followed by distant metastasis<sup>3)9)</sup>. Our own case pursued a similar course to other cases of distant metastasis.

Surgery is considered the first choice of treatment for metastatic BCC. The treatment is same as other metastasis-related liver cancer. Basically hepatic function is bounteous, local resection of the liver tumor is desirable. And the tumor was single and was able to expect curative resection. But surgical therapy of primary and recurrent BCC in the skin has been associated with the least number of recurrences. For the unresectable multiple metastasis cases, chemotherapy with a combination of CDDP and 5 FU, or radiation therapy should be considered<sup>3)10)11)</sup>. Cases of long-term survival have been reported after such treatments<sup>10)</sup>, but in most such cases it is difficult to remove the metastatic tumors. The median survival period once distant metastasis occurs has been reported to be 10 to 14 months<sup>12)</sup>.

Our patient was discovered to have multiple liver metastase in last years, but systemic chemotherapy was impossible because of his renal dysfunction.

## III Conclusions

We encountered an extremely rare case of liver metastasis by BCC, and partial liver resection was performed to treat it. Whenever possible, the first choice of treatment for metastasis by BCC is surgical resection. However, the prognosis of such cases is generally considered to be poor.

Although only a small number of cases have been reported, and evidence for the efficacy of treatment is insufficient, a combination of chemotherapy and radiation therapy should be

effective in unresectable cases.

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## 皮膚基底細胞癌肝転移の1切除例

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## 要 約

症例は77歳男性。76歳時に局所再発及び左頸部リンパ節転移に対し切除術，皮弁形成術を行った。病理所見は基底細胞類似の組織中に，角化を伴う扁平上皮癌の像を認め基底細胞癌と診断された。その後77歳時に眩暈，嘔気がありジギタリス中毒の診断にて当院入院となる。その際に施行した腹部CTにて肝S7に3cm大のbull's eye lesionを呈する腫瘤を指摘された。肝生検所見を前医皮膚標本と比較したところ基底

細胞癌肝転移と診断され外科転科となり肝部分切除を施行した。病理診断では腫瘍は内部が高度壊死を呈しbasaloid, 扁平上皮癌への分化を示し基底細胞癌の肝転移であった。患者は肝部分切除後11ヶ月目にBCC多発肝転移のために亡くなっている。基底細胞癌は顔面に好発し局所侵襲性は強いが転移はまれとされている。

(キーワード：皮膚基底細胞癌，肝転移)