Cutaneous metastases from internal carcinomas are rare. In this report we detail a case of hepatocellular carcinoma with the unusual manifestations of multiple skin metastases. A 49-year-old male, who had received surgical resection of hepatocellular carcinoma one year prior, presented with multiple reddish-blue, firm, painless and nonulcerative cutaneous papules and nodules over the fingers, palms, toes, soles and back. Pathology of the cutaneous nodules showed characteristic hepatocellular carcinoma with trabecular gland formation. These lesions grew very rapidly and developed cauliflower-like appearances which had not been described previously in the literature. The patient died of respiratory failure secondary to lung metastasis two months after the first appearance of the skin lesions.

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on the met a static le sion of the brain was per formed, and partial re sponse was ob tained.

In June, 1994, a small red dish-blue papule, about 0.2 cm in di am e ter, was first noted over the tip of his right in dex fin ger. That papule was pain less and firm. In the fol low ing seven days, mul ti ple tiny papules and nodules with the same characteristics gradu ally e - rupted over other fin gers, palms, toes, soles of the feet and back. He then vis it ed our hos pi tal and was ad mitted for furtherevaluation and man age ment.

On physical examination, his vital signs were with in nor mal lim its ex cept body tem per a ture of 37.8 °C. The scleras were not icteric and no yel low ish disc ol or ation of the skin was found. The liver span was 11 cm over the right midclavicular line and the spleen was im pal pa ble. Small pain less cu ta ne ous papules and nod ules, 0.2 cm to 1.0 cm in size, with red dish-blue color, dome shape, smooth sur face, firm and elas tic tex ture, were noted over the fin ger tips, palms, toes, soles and the back (Fig. 1).

On ad mis sion, the se rum bio chem is try tests showed al bu min 3.2 g/dL, to tal bil i ru bin 1.5 mg/dL, alanine aminotransferase 62 IU/L (nor mal < 40 IU/L), asparate aminotransferase 61 IU/L (nor mal < 45 IU/L), alkaline phosphatase 84 IU/L (nor mal < 95 IU/L), and gamma-glutamyl transpeptidase 102 IU/L (nor mal < 60 IU/L). Prothrombin time was 13.4 sec. Hep a ti tis B sur face an ti gen was pos i tive and se rum al pha- feto protein 7328 ng/mL.

The ultrasonography and com puted to mog ra phy (CT) of the ab do men dis closed mul ti ple nod u lar le sions, sizes from 1.5 cm to 3.2 cm, over the residual liver; tumor thrombi were noted in the main portal vein. The chest roentgenogram and the chest CT re vealed mul ti ple nod ules with vari able sizes from 0.5 cm to 2.0 cm over both lungs, and tu mor throm bus in the right proximal inferior pul mo nary vein and left atrium was highly sus pected. Brain CT showed a 1.0 cm tu mor over the right oc cip ital re gion.

During the admission period, the cutaneous le sions grew rap idly with tu mor ex pand ing to 6 × 5 × 5 cm. The le sions over the right fin gers and palm de vel oped to un usual cau li flower ap pear ances (Fig. 2). One small piece of tu mor de tached spon ta ne ously from the right thumb was sent for patho log i cal ex am i na tion. Mi cro scopically, the dermis and subcutis were oc cu pied by pleomorphic tu mor cells with char ac ter is tic fea tures of hepatocellular car ci noma in clud ing plump eosino phil cy to plasm, prom inent nu cle oli, trabecu lar-acinus dif fer en ti a tion and the pres ence of si nu soid pat tern (Fig. 3). In ad di tion, mas sive ne cro sis and bi zar re gi ant cells were seen. There af ter, ul cer ation de vel oped on the skin le sions lead ing to spontaneous hem orr hage. Thrombin local spray ing, epinephrine wet dress ing and pack ing over the ul cer ative le sions were ap plied, but the ef fect of lo cal care was lim ited. The

Fig. 1. Cu ta ne ous papules and nod ules scat ter ed over fin - ger tips and palms. These le sions, from 0.2 cm to 1.0 cm in di am e ter, are re ddish-blue, elas tic, dome - shaped with a smooth sur face.

Fig. 2. The cu ta ne ous tu mor grew rap idly and were dis - trib uted widely over the fin gers and palms of the hands, which pre sented an un usual cau li flower ap pear ance.
Conditions got worse and more trouble some day after day.

Two months after the first appearance of the skin lesions, the patient died of respiratory failure secondary to lung metastases from HCC.

**Discussion**

Cutaneous metastases occur in 1.4% to 4.4% of tumors originating from the internal organs.\(^1\) In western countries, the leading origins of cutaneous metastases from internal malignancies are the lungs (25%), colon (19%), and squamous cell carcinoma of the oral cavity (12%) in males; and breasts (69%), colon (9%) and ovaries (4%) in females.\(^1\) In Asian countries, the common origins of cutaneous metastases are the stomach (37%), lungs (21%), and pancreas (8%) in males; and breasts (33%), stomach (21%), uterus (15%) and lungs (8%) in females.\(^2\)

The usual metastatic sites of HCC are the lungs and regional lymph nodes.\(^13\)-\(^15\) Cutaneous metastasis from HCC rarely occurs and only five cases have been reported in the English literature (Table 1).\(^8\)-\(^12\) Although the causes of the rarity of cutaneous metastases from HCC have not been well elucidated, the poor prognosis of HCC may probably be one of those reasons. Owing to the aggressive nature of the neoplasm and high prevalence of advanced liver cirrhosis, the average survival of untreated, advanced HCC patients is less than three months.\(^16\) As in the present case, patients with cutaneous metastasis from HCC usually have compensated liver function before cutaneous metastasis,\(^8\)-\(^12\) so they usually survive longer until the appearance of cutaneous metastasis. In fact, cutaneous metastasis might even be the initial sign of HCC. Another possible explanation for the rarity of cutaneous metastases from HCC is that the HCC invades systemic circulation less frequently than this tumor invades in portal veins. Therefore, the cutaneous metastasis, which comes from systemic hematogenous spreading, is rare.

### Table 1. Characteristics of reported cases with cutaneous metastasis from hepatocellular carcinoma

<table>
<thead>
<tr>
<th>Age (yr)</th>
<th>Sex</th>
<th>Number of lesions</th>
<th>Size* (cm)</th>
<th>Site(s)</th>
<th>Appearance of lesions</th>
<th>Survival* (days)</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>64</td>
<td>M</td>
<td>1</td>
<td>1.2</td>
<td>Right preauricular area</td>
<td>Violaceous nodule</td>
<td>32</td>
<td>8</td>
</tr>
<tr>
<td>72</td>
<td>M</td>
<td>1</td>
<td>5.0</td>
<td>Right side of scalp</td>
<td>Hema toma-like</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>77</td>
<td>M</td>
<td>1</td>
<td>1.0</td>
<td>Chest wall</td>
<td>Reddish mass</td>
<td>several weeks</td>
<td>10</td>
</tr>
<tr>
<td>62</td>
<td>M</td>
<td>3</td>
<td>0.5</td>
<td>Right zygomatic region</td>
<td>Granuloma telangiectaticum-like</td>
<td>3 months</td>
<td>11</td>
</tr>
<tr>
<td>62</td>
<td>M</td>
<td>1</td>
<td>0.5</td>
<td>Chin</td>
<td>Pyogenic granuloma</td>
<td>unknown</td>
<td>12</td>
</tr>
<tr>
<td>49</td>
<td>M</td>
<td>Multiple</td>
<td>--</td>
<td>Fingers, palms, toes, soles of feet, back</td>
<td>Initially, papules and nodules; finally, growing into cauliflower tumors with ulcerations and spontaneous hemorrhage</td>
<td>2 months</td>
<td>Present case</td>
</tr>
</tbody>
</table>

Note: *The largest diameter of the lesion(s).<sup>a</sup>

<sup>a</sup>Since the appearance of cutaneous metastasis.

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**Fig. 3.** The cutaneous tumors revealed subcutaneous hepatocellular carcinoma cells in a trabecular and glandular pattern. Tumor emboli were present in the dermal vessels (arrow). (H&E, 40X)
The lesions usually appear as a single or multiple firm, painless, nonulcerative, and red dish-blue nodules. This special color may be the result of hypervascularity of the tumor that makes the lesions look like granuloma telangiectaticum. The initial cutaneous lesions in our patient had the same characteristics. However, the lesions were much more widespread. These rapid-growing lesions finally developed into large cauliflower-like lesions with ulcerations and spontaneous hemorrhages. It is difficult to determine the actual cause of these differences, however, age, ethnic factors and aggressiveness of the primary tumor are possible factors.

Four of the cases with skin metastasis from HCC and the present case had lung metastases. The tumor cells may reach to the left atrium and pulmonary vein. Finally, the tumor emboli may spread to the distal ends of the limbs, as our case presented.

Subcutaneous seeding of HCC after percutaneous needle biopsy is occasionally seen. This kind of cutaneous HCC is due to direct cutaneous seeding through the track of biopsy, which is different from the hematogenous spread of HCC to the distal ends of limbs in the present case.

Although cutaneous metastasis of HCC rarely occurs, the large cutaneous lesions usually tend to ulcerate and bleed which may mark edly increase the risk of infections and severity of anemia in patients with terminal liver disease. However, no effective therapy has been developed and local dressing and packing could only provide limited palliative effects. The use of palliative radiotherapy warrants further study.

In conclusion, cutaneous metastasis from HCC rarely occurs. The liver function of these pa tients is usually well compensated during the initial diagnosis of HCC. Most of the cutaneous lesions are small and appear as papules or nodules, but rapid growth with cauliflower-like appearance, ulceration and hemorrhage may be seen in some cases. Since these lesions develop at the terminal stage of HCC, the patient’s prognosis is always grave.

References

16. Okuda K, Ohtsuki T, Obata H, Tomimotosu M, Okazaki N, Hasegawa H, et al. Natural history of hepatocellular carcinoma in patients with terminal liver disease. No effective therapy has been developed and local dressing and packing could only provide limited palliative effects. The use of palliative radiotherapy warrants further study.

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References