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Research Note

Subcutaneous Echinococcosis: A Case Report from Kyushu

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Many studies of *Echinococcus* have been reported. In man, the liver and lung are most commonly affected. The parasite may occur rarely in other sites such as muscle, bone, kidney, heart, spleen, brain, thyroid, breast, prostate, parotid and pancreas (Bonakdarpur, 1967: Yamashita, 1973; Grove *et al.*, 1976). We recently observed a case of human subcutaneous echinococcosis. The histopathological features are reported in this paper.

Case Report

A 63-year-old man, Y. I., from Oita Prefecture, Japan, was admitted to Kyushu University Hospital in January 1984 for treatment of a reccurrent swelling in his right flank. During the previous two years, the swelling had been repeatedly excised and treated with antitubercular therapy. The patient had lived previously in Hokkaido, the Kurile Islands, Siberia and Manchuria.

A cylindrical, subcutaneous, cystic tumour, 1 cm × 0.5 cm in size, was excised from the right flank. It consisted of transparent vesicles and yellowish granular substance. Histopathological examination (Fig. 1) showed it to be a foreign body granuloma. The tumour was located in the dermis, and was surrounded by foreign body giant cells and mononuclear inflammatory cells. Within the fibrous cyst wall, were many deeply folded laminated layers. Within the laminated layers were parts of thin germinal layers. No protoscoleces were observed in the cyst. No evidence of tuberculosis was detected.

A computed tomography (CT) (Figs. 2, 3) and an echogram revealed a round multilobular cystic mass, 9 cm in diameter, in the posterior segment of the right lobe of the liver which adhered to the right kidney. An abdominal X-ray (Fig. 4) and CT also showed that this mass had peripheral calcification. Angiography (Figs. 5, 6) demonstrated it to be avascular. The left kidney had features of hydronephrosis and tests showed that renal function was impaired. A CT of the rest of the body showed no abnormality. Immunological tests were positive for *Echinococcus*. All the other laboratory tests were within normal limits.

Since this patient's renal function was impaired and both kidneys appeared abnormal, abdominal surgery was not attempted. Therefore he was started on a long term chemotherapeutic regime with mebendazole (1500 mg/day), followed-up by examination by CT, scanning and echogram.

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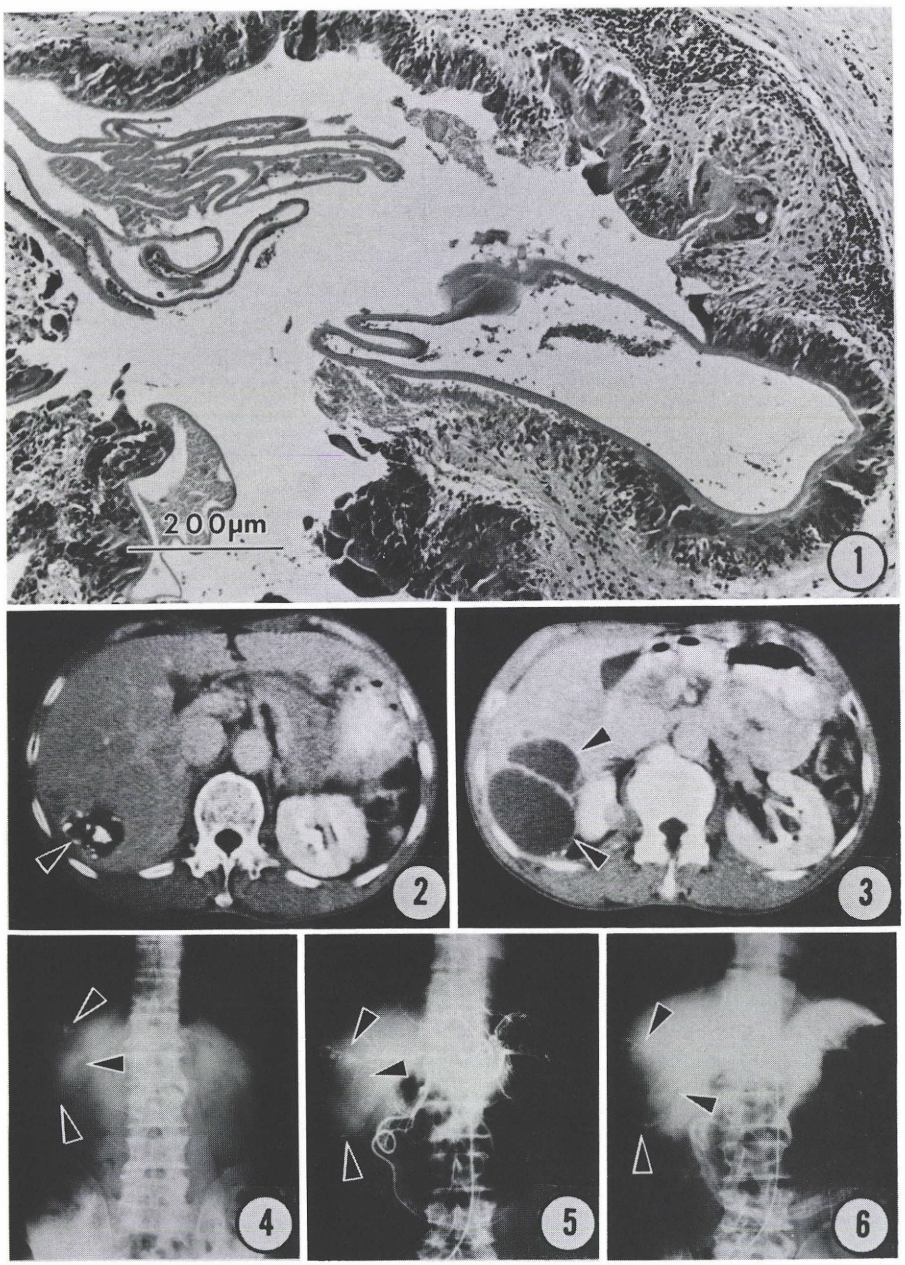
Comment

Human echinococcosis caused by *Echinococcus granulosus* is characterized by the presence of hydatid cysts in the liver and lungs. Cysts have been reported rarely in other tissues or organs, including the eye and the tongue (Bonakdarpour, 1967; Wilson *et al.*, 1968; Yamashita, 1974; Grove *et al.*, 1976; Holland, 1948; Sverdlick, 1961; Gracanin, 1963; Apple *et al.*, 1980). Subcutaneous echinococcosis is thought to be extremely rare. In this case it is difficult to determine whether the primary site of infection was the dermis or the liver.



Histopathological examination of the dermis showed a thick fibrous cyst with degenerating laminated and germinal layers devoid of protoscoleces. These features are characteristic of echinococcosis in man. It is possible that the protoscoleces were released during the repeated excisions of the cyst or were not formed. Mebendazole has been administered in many cases of echinococcosis (Schantz *et al.*, 1982), but effectiveness is still undetermined. In the present case mebendazole had also been used with follow-up of CT, scanning and echogram.

In Japan, sporadic cases of human echinococcosis caused by *Echinococcus granulosus* have been reported (Yamashita, 1973; Ohbayashi, 1975). It is suspected that imported cows and sheep from Australia and New Zealand may be the carriers and contribute to indirect human infection (Ohshima *et al.*, 1967; Ohbayashi and Miura, 1971; Mita *et al.*, 1984). As the patient's history suggests, he may have contacted the disease during his stay in other endemic areas. In spite of the liver involvement the patient seems to be healthy at present. This case provides evidence that a delayed diagnosis may lead to other complications and make surgical removal of the cysts impossible. Therefore, early diagnosis is vital for insuring a complete cure.

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Fig. 1 Histologic section of the subcutaneous lump. Hematoxylin and eosin.

Fig. 2 Abdominal CT demonstrating calcification in the cystic mass (arrow) of the right hepatic lobe.

Fig. 3 Abdominal CT demonstrating a lobulated cystic mass (arrows) in the right hepatic lobe.

Fig. 4 Plain X-ray showing calcified focus (arrows) at the right upper portion of the abdomen.

Fig. 5 Hepatic arteriogram showing an avascular area (arrows) indicating a cystic mass in the right hepatic lobe.

Fig. 6 Venous phase of the angiogram showing the avascular area (arrows).

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短　報

皮下腫瘤を主訴とした包虫症例

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本症例は大分県在住の63才の男性で，腹部皮下腫瘤を主訴として皮膚科を受診し，病理組織学的に単包虫症と診断され，その後の諸検査で肝臓，腎臓にも病変を認められた．当初，肝右葉切除の予定であったが，CT 所見で肝のシストが後腹膜に接しており，穿破の場合を考慮し，約１ヵ月間 Mebendazole の投与を実施した．その後やや病変の縮小の感はみられたが，著変を認めず，さらに化学療法を続け，現在経過観察中である．