

# FATAL MALIGNANT MELANOMA IN A PREPUBERTAL CHINESE BOY

By J. S. Cheah, M.B., B.S., M.R.A.C.P.

(Department of Medicine, University of Singapore, Singapore)

and

S. K. Ting, M.B., B.S.

(Department of Pathology, Outram Road General Hospital, Singapore)

Melanomas capable of metastases are very rare in children (Lund and Kraus, 1962; Myhre, 1963; Skov-Jensen, Hastrup and Lambrechtsen, 1966). Skov-Jensen *et al* (1966) collected 43 cases from the literature and reported another 2 cases. Since then, another case has been reported (McLeod, Davis, Herron, Caldwell, Little and Quinn, 1968). As far as we are aware, malignant melanoma in a prepubertal Chinese child, has not been reported. We describe below such a case.

## CASE REPORT

C.Y.S., a 12 year old Chinese boy, presented with a mass in the left inguinal region and several masses in the scalp of 2 weeks duration. For the same period, he also had fever, poor appetite and weight loss.

Physical examination revealed a cachexic, prepubertal boy. He was anaemic and febrile. In the scalp there was a dark coloured mass (4 cm. in diameter) surrounded by several smaller masses. (Fig. 1). This "sun and the planets" configuration is characteristic of malignant melanoma (Warner, 1950; Ransome, 1968). In the left inguinal region, there was a mass 6 cm. in diameter; other lymph nodes were not enlarged. There were 2 pigmented scars (2 cm. by 1 cm.) over the left shin. The fundi were normal and the blood pressure was 95/60. The liver was enlarged to 3 cm. below the right costal margin and the spleen was also enlarged to 3 cm. below the left costal margin (Fig. 2).

The urine was normal in colour even on prolonged standing but marked melanogenuria was shown by the ferric chloride, nitric acid and Thormahlen's nitroprusside reactions (Harrison, 1957). The haemoglobin was 9 Gms. % and the leucocyte and platelet counts were normal. The erythrocyte sedimentation rate was 102 mm./hour. Radiological examination of the chest showed multiple metastatic opacities.

Biopsy of the mass in the left inguinal region showed a tumour 2 cm. in diameter. There was scanty pigmentation. Microscopically, the cells were chiefly spindle-shaped while some were round; the picture was that of a carcino-sarcoma. Melanin pigments were scattered in the connective tissue and in the macrophages (Fig. 3).

Being a specimen from a prepubertal child, a cautious diagnosis of malignant melanoma was made.

He was given supportive treatment and intravenous cyclophosphamide (Endoxan) 200 milligrams daily for a total of 3.2 grams. There was no improvement and melanogenuria persisted. He died 4 months after the onset of symptoms.

## POST-MORTEM FINDINGS

The body was that of a thin emaciated Chinese boy. In the posterior scalp there were four pigmented masses with superficial ulcerations; smaller nodules were seen on the periphery of the larger ones.

Masses of firm, fleshy and pigmented lymph nodes were found in the left inguinal region (Fig. 4).

Two irregularly pigmented, firm and atrophic scars were seen over the left shin.

The brain was oedematous and showed signs of mild coning. Pigmented and haemorrhagic tumour masses were found in the cerebral hemispheres. The lateral ventricles were dilated (Fig. 5). Both lungs were blackened by numerous pigmented tumours; their diameters varied from 0.5-3 cm. The larger ones showed central necrosis (Fig. 6). Pigmented tumours were seen in the cortices of the kidneys (Fig. 7).

Microscopically, the tumours at the different sites were similar. They consisted of spindle-shaped cells with pleomorphic nuclei and



Fig. 1. Metastatic masses in the scalp.

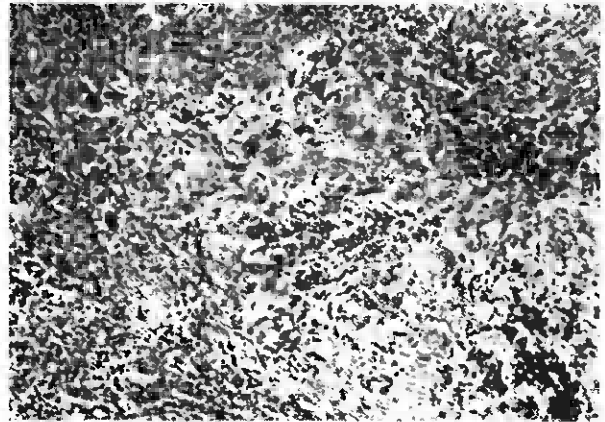


Fig. 3. Biopsy of left inguinal mass showing lymphoid tissues infiltrated by spindle-shaped and round cells. H. & E.  $\times 150$ .

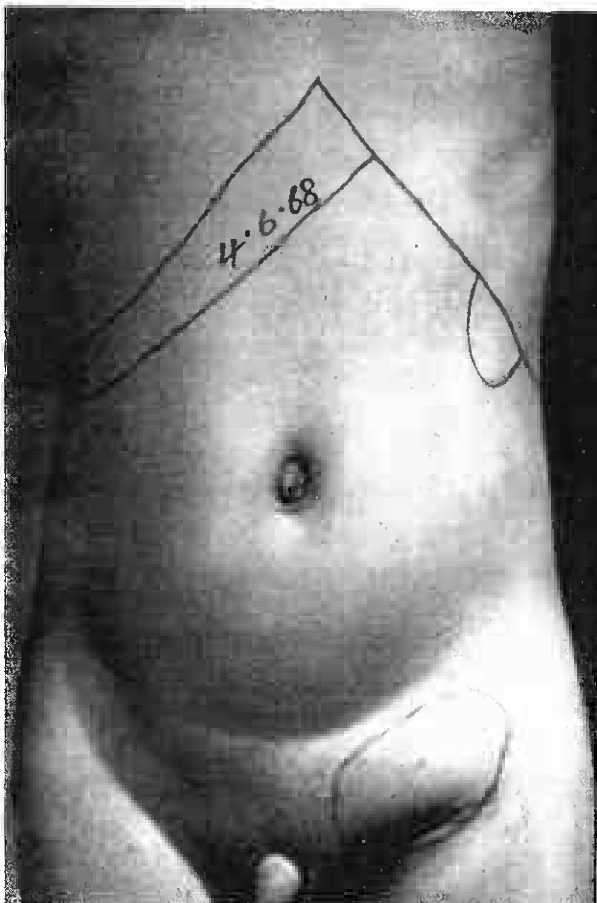


Fig. 2. Showing hepatosplenomegaly, left inguinal mass and prepubertal genitalia.

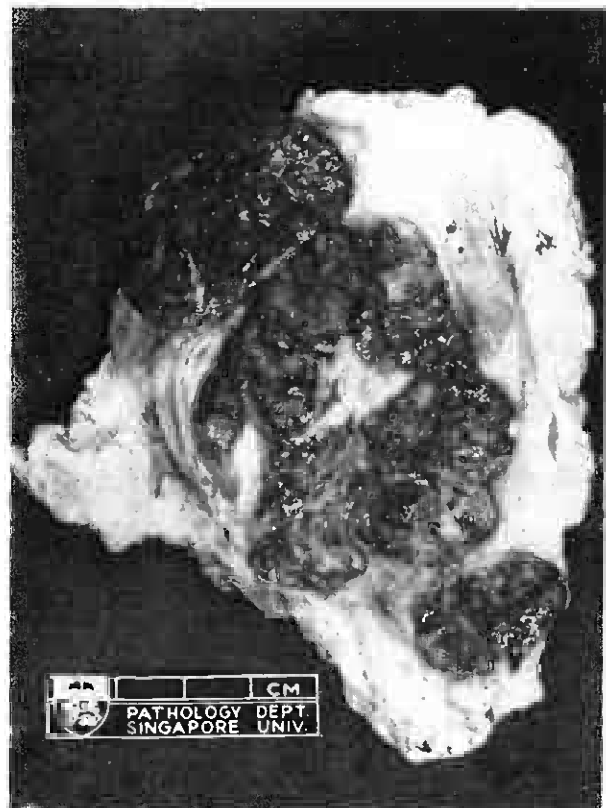


Fig. 4. Mass from left inguinal region showing pigmented and haemorrhagic tumours.

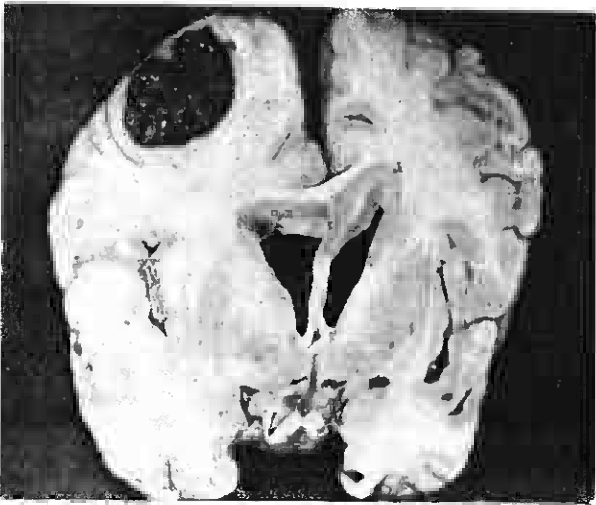


Fig. 5. Coronal section of brain showing a metastasis in the left cerebrum and the dilated ventricles.

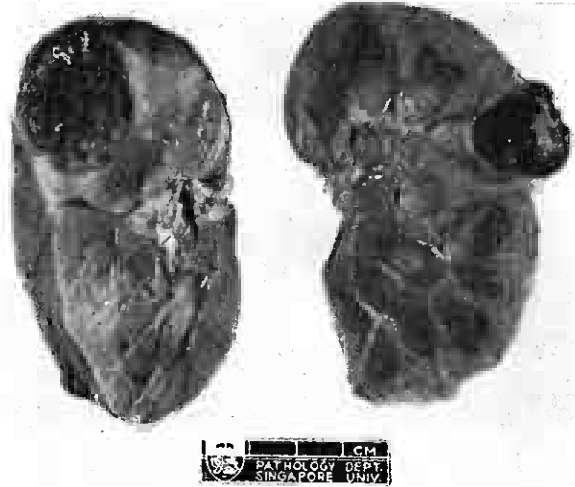


Fig. 7. Cross section of the kidneys showing metastatic tumour in the cortices.

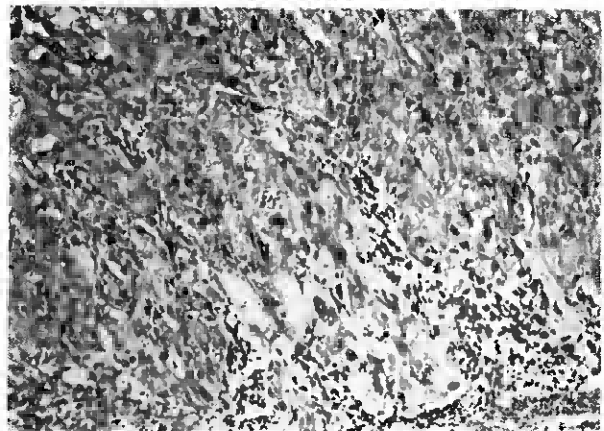


Fig. 8. Section showing spindle-shaped cells with pleomorphic nuclei. H. & E.  $\times 150$ .

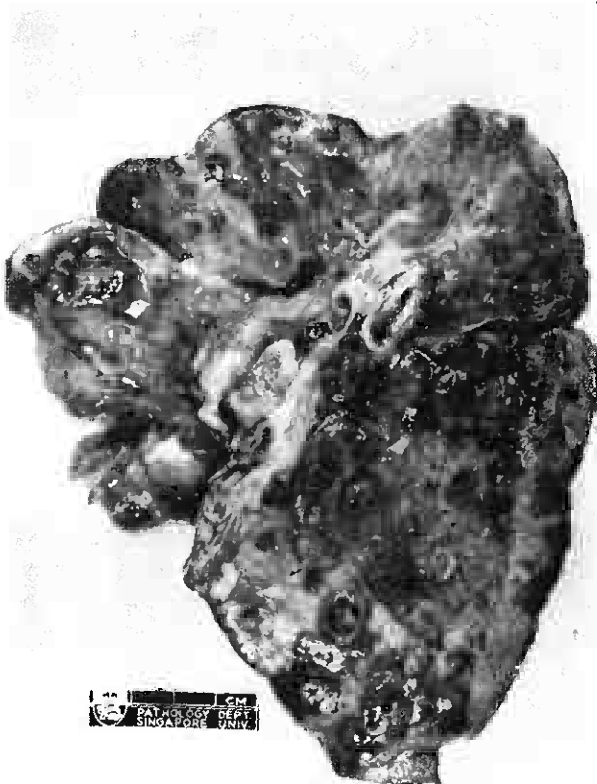


Fig. 6. Cross section of the lung showing numerous pigmented and haemorrhagic metastatic nodules.

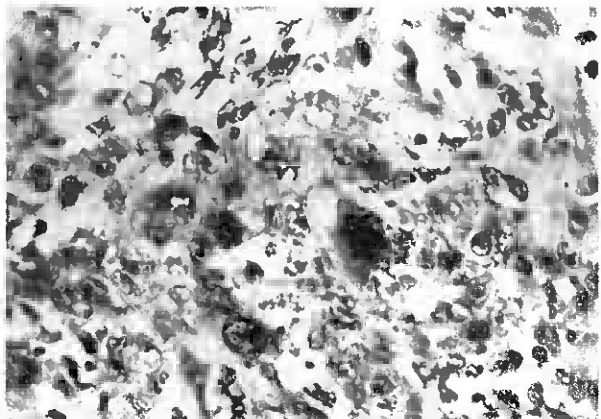


Fig. 9. Magnified view of Fig. 8 showing pleomorphic and mitotic nuclei. H. & E.  $\times 500$ .

frequent mitotic figures. Multinucleated giant cells were scarce. Some cells were heavily pigmented with melanin (Figs. 8 and 9).

The scar tissue over the left shin did not show any evidence of malignant melanoma.

The post-mortem showed that this is a case of malignant melanoma with metastases in the brain, lungs, kidney, lymph node and scalp. The primary site was not demonstrated.

## DISCUSSION

Malignant melanomas in children can be divided into 3 categories: congenital malignant melanoma; malignant melanoma developed before puberty and malignant melanoma developed prepubertally in a naevus pigmentosus giganticus (Skov-Jensen *et al*, 1966). The patient we described fall into the second category. Before the reports of Spitz (1948) and Allan and Spitz (1953) malignant melanoma in children was considered to have a relatively good prognosis; these authors showed that this was because certain benign naevi, which they termed "Juvenile Melanoma" had been incorrectly grouped with the malignant melanoma. Skov-Jensen *et al* (1966) from a survey of 45 cases of malignant melanoma with metastases in children concluded that the 3-year survival in children compares with the 5-year survival rate in adults at a similar stage in the disease. Our case illustrated the poor prognosis of malignant melanoma in children.

The site of the primary lesion in our case is unknown. It is speculated that the scars over the left shin may be the "burnt out" primary lesion. In the survey of Skov-Jensen *et al* (1966), the site of the primary lesion is the head and neck (24.6%), lower limb (23.9%), trunk (25.9%), upper limb (17.8%), other sites (1.8%) and unknown (6.0%).

McGovern and Goulston (1963) believe that congenital moles may become malignant independent of solar exposure and that most of those occurring in childhood fall into this category. Acquired naevi which become malignant are mainly the result of excessive solar exposure in fair-skinned persons. (Lancaster and Nelson, 1957). Although malignant melanoma is more

common in the fair-skinned, it also occurs in the darkly pigmented (Allen and Spitz, 1953; Butler, 1967).

## SUMMARY

A fatal case of malignant melanoma with widespread metastases in a prepubertal Chinese boy is described and the literature is briefly discussed.

## ACKNOWLEDGEMENTS

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