

TWO CASES OF HUMAN SARCOCYSTOSIS IN EAST MALAYSIA

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SUMMARY

The first two cases of human muscular sarcocystosis are reported from East Malaysia, in Sabah and Sarawak respectively. Sarcocysts were seen in biopsied specimen from the nasopharynx of both patients who had carcinoma of the nasopharynx. The measurements and appearances of the cysts and the zoites within the cysts were compared with the human cases of sarcocystosis previously reported in West Malaysia. Zoonotic and other aspects of these cases of East Malaysian sarcocystosis are discussed.

INTRODUCTION

While six cases of human sarcocystosis have been reported among the various ethnic groups (Malays, Chinese, Indians and Orang Asli) in Peninsular Malaysia,¹ no case of human sarcocystosis has been reported in East Malaysia so far. One of the reasons for this general lack of documentation is that human sarcocystosis, especially the muscular form where man serves as the intermediate host, is often a mild or asymptomatic condition, not characterised by specific signs or symptoms. Unless a definite search is made for the *Sarcocystis* parasite from routine histopathological examinations of biopsied or

autopsied materials, most of the cases of *Sarcocystis* will be missed.

The present paper reports two cases of human sarcocystosis from East Malaysia — one in Sabah and one in Sarawak. This constitutes the first report of human muscular sarcocystosis from East Malaysia.

MATERIALS AND METHODS

These two cases reported are from a large series of head and neck tumour biopsy samples obtained from East Malaysia which form part of a joint collaborative study. Tissue biopsies were fixed in 10% buffered formalin, and paraffin sections were cut and stained with haematoxylin and eosin. Measurements of the cyst wall and zoites were made under oil-immersion at high magnification.

CASE REPORTS

Case 1

T.L., a 45-year old Kadazan soldier, was seen in the outpatient clinic of the Queen Elizabeth Hospital, Kota Kinabalu, Sabah with a complaint of nasal stuffiness and unilateral bloody nasal discharge of six months' duration. He was otherwise in good health with no significant complaints. He had occasionally travelled to West Malaysia, but had otherwise never lived outside his home state. There was enlargement of the upper left cervical chain of lymph nodes. On indirect laryngoscopy, a tumour arising from the left Fossa of Rossenmuller was seen. The haematogram was essentially normal, with an ESR of 50 mm/hr. The serum profile and urinalysis were unremarkable. Ig A VCA titres were elevated (> 50 units/

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100 ml). After failed biopsy on two occasions, biopsy under direct laryngoscopy was undertaken. An undifferentiated carcinoma of the nasopharynx (WHO III) was present in the left fossa and roof. In addition, two cysts of *Sarcocystis* were noted within muscle fibres, deep to nasopharyngeal mucosa (Fig 1).

The patient was referred for further treatment at the Institute of Radiotherapy, Kuala Lumpur.

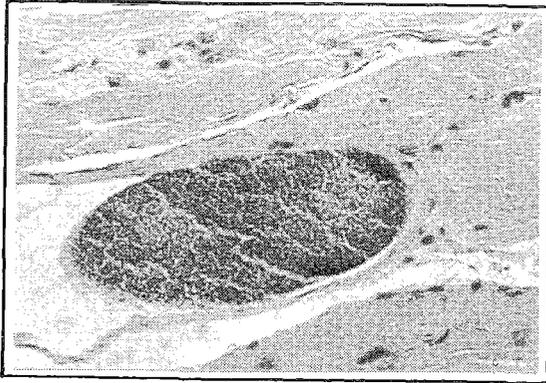


Fig. 1 Section of sarcocyst from patient 1 x 450.

Case 2

TWC, a 53-year old Sarawakian Chinese male from Kapit, was referred to the Kuching General Hospital for bilateral neck swelling, multiple cranial nerve palsies and progressive dysphagia of one year's duration. On physical examination, he was emaciated, jaundiced and was in poor general health. He had generalised body aches, muscle and bone pains and was in respiratory difficulty. A huge tumour of the nasopharynx arising from the left Fossa of Rossemuller and extending into the roof and base of the skull was noted. Routine investigations revealed a hypochromic microcytic anaemia with a haemoglobin of 6.5 gm/100 ml. There was a leucocytosis of 23,000/ul with 95% neutrophilia. ESR was elevated at 123 mm/hr. Ig a VCA titres were not done. Biopsy of the tumour mass confirmed the presence of a non-keratinising carcinoma of the nasopharynx (WHO II). A single sarcocyst was seen within the muscle fibres deep to the carcinoma (Fig 2). Liver biopsy showed the presence of metastatic disease. The patient absconded after the 10th hospital day and died a week later.

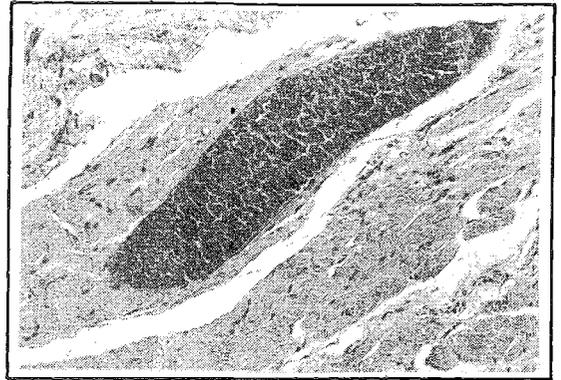


Fig. 2 Cross-section of sarcocyst from patient 2 x 300

DESCRIPTION OF THE PARASITES

A sarcocyst from case 1 is shown in Fig. 1 and in the biopsy from the Sarawakian patient, a single cyst within muscle fibres cut in cross-section, was noted (Fig 2). Measurements of the diameter of the cyst, the thickness of the cyst wall and the size of the zoites are tabulated in Table 1.

DISCUSSION

The morphology of the cysts and the zoites within are very similar to those human cases discovered in West Malaysia. Like most of the West Malaysian cases, the cyst wall was thin and smooth or only slightly wavy. Cytophaneres and septae were absent and the sizes of the zoites fell within those of the West Malaysian cases. Similarly, these East Malaysian cases resemble most closely that reported in the moon-rat - *Echinosorex gymmurus*.²

These two East Malaysian cases of human muscular *Sarcocystis* are also probably zoonotic infections and could have been acquired by ingesting the sporocysts shed by a carnivorous definitive host. While *Sarcocystis* spp have been reported from many wild and domestic animals in West Malaysia,¹ there are as yet no reports of *Sarcocystis* among animals from East Malaysia. As the fauna of West and East Malaysia are generally similar, one can expect *Sarcocystis* to exist in wild and domestic animal reservoir hosts in East Malaysia as well. There is much need to

Case	Age, sex, race and locality of patient	Case history	Location of cyst	Diameter of cyst	Thickness of cyst wall	Cytophaneres	Septa	Size of zoites
1.	45-year old male Kadazan from Sabah	Undifferentiated carcinoma of the nasopharynx	Muscle fibres deep to naso-pharyngeal mucosa	80 um	1.5 – 2.0 um, slightly wavy	Not seen	Absent	1.5–1.7um x 5.0–5.5um
2.	53-year old male Chinese from Sarawak	Non-keratisig carcinoma of the naso-pharnx	Muscle fibres adjacent to infiltrating carcinoma	160 um	1.0 – 1.5 um, smooth	Not seen	Absent	1.9–1.5um*

TABLE 1:
DESCRIPTION OF TWO CASES OF SARCOCYSTIS INFECTION IN EAST MALAYSIA

*Only diameter of zoites measured as cyst cut in cross-section.

know more about animal reservoirs of *Sarcocystis* in East Malaysia.

Like the six human cases reported in West Malaysia, these two cases in East Malaysia are also incidental findings from biopsied material obtained for investigations of other disease conditions. Both these cases were reported from patients (a Kadazan and a Chinese) suffering from nasopharyngeal carcinoma. This makes up a total of three cases of human sarcocystosis associated with nasopharyngeal malignancies, the first reported case being a 12-year old Orang Asli girl from Pahang in West Malaysia.² The association of sarcocystosis with carcinomas needs further

investigation as two other cases reported in West Malaysia were associated with carcinoma of the tongue.

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