To the Editors:

First successful in vitro culture of Leishmania sp. causing autochthonous visceral leishmaniasis in Sri Lanka

Ceylon Medical Journal 2011; 56: 179-180

The first autochthonous case of visceral leishmaniasis (VL) in Sri Lanka was reported in 2007 [1], more than a decade after the first report of autochthonous cutaneous leishmaniasis (CL) in 1992 [2]. Since 2007 only three endemic patients with confirmed VL was reported from the country (two from the Anuradhapura district), and the current report is on the third patient (from the Vavuniya district). Few cases of mucocutaneous leishmaniasis (MCL) have been reported in the country to date [3, 4]. However, thus far successful in vitro culture of the Leishmania parasite could be carried out only in the strains giving rise to cutaneous leishmaniasis [5]. We report the first successful in vitro culture of Leishmania sp. causing endogenous VL in Sri Lanka.

A diagnostic bone marrow aspiration was carried out in a 57-year old male from Vavuniya district who presented with pyrexia of unknown origin of 6 months duration. There was no history of overseas travel, but he had an occupational history of being in the jungle as a civil soldier for many months in the Vavuniya district during the North-East civil war immediately prior to occurrence of symptoms. The patient was pale but he had no generalised lymphadenopathy. He had a moderate, firm hepatosplenomegaly. The bone marrow aspiration contained numerous Leishmania amastigotes (Figure 1a). The trephine biopsy showed the typical dot and dash appearance of Leishmania donovani (LD) bodies (Figure 1b).

A few drops from the same bone marrow aspirate were inoculated into medium 199 supplemented with 10% FBS, 200 mM glutamine, 25 mM adenosine, folic acid 10 mg/ml and penicillin/streptomycin 100 μg/ml. The cultures were maintained at 24ºC. First bone marrow culture was sub-cultured 3 days after inoculation to eliminate the action of bone marrow inhibitory factors on the growing promastigotes.

The original cultures showed a promastigote count of 1 x 10^4/ml five weeks after the first inoculation. The first subculture inoculated 3 days after the first inoculation showed a promastigote count of 7 x 10^4/ml five weeks after inoculation (Figure 1c).

Though endogenous cases of cutaneous, mucocutaneous and visceral forms of leishmaniasis are being reported in the country, the sandfly vector is yet to be identified. Few reports show the dog as a possible reservoir host of leishmaniasis in Sri Lanka [6, 7]. However, in India, humans are the only reservoir host for VL (Kala-azar) [8]. The patient reported in this study had close contact with the jungle, raising the question of the existence of a possible sylvatic cycle for VL in Sri Lanka in contrast to the disease pattern that is seen in India.

The success of in vitro culture of the strain causing VL in Sri Lanka will pave the way for the identification of the Leishmania parasite to species and strain level. The strain identification will be carried out by performing isoenzyme studies which is the gold standard for Leishmania strain identification [8]. This early success of in vitro culture of the Leishmania parasite causing visceral leishmaniasis and possible strain identification in the near future will have a bearing on understanding of the disease pattern of VL in Sri Lanka, and will enable us to implement adequate preventive measures.

Acknowledgements

We thank Professor Greg Matlashewski, Programme Leader: Virology/Parasitology, Research for the Elimination of Visceral Leishmaniasis, Tropical Diseases Research (TDR), World Health Organization and Dr. Wen Wei Zhang from the McGill University, Montreal, Canada, for supplying us with the culture medium and guidance in establishing the in vitro Leishmania culture, Mrs. Indira Athauda for the photographs and the University of Sri Jayewardenepura Research Grant ASP/06/RE/2008/03 for funding.
To the Editors:

Scalp metastasis in a patient with phaeochromocytoma

Ceylon Medical Journal 2011; 56: 180-181

Phaeochromocytomas are catecholamine secreting tumours arising from chromaffin cells of the adrenal medulla [1]. 10% of the tumours are bilateral and 10% are malignant. Malignant tumours most commonly metastasise to lungs, bone, liver or lymph nodes or may recur locally [1]. Surgical resection is the treatment of choice followed by adjuvant combined chemotherapy [1]. Five year survival rate for malignant phaeochromocytoma is 23-44 % compared with 97% in benign phaeochromocytoma.

Non hormone secreting phaeochromocytomas are uncommon and the development of pulsatile scalp metastases have not been reported previously. Clinically aggressive behaviour can be predicted by the phaeochromocytoma of the adrenal gland scaled score (PASS) [1].

A 41-year old male with left loin pain had CT evidence of a mixed echogenic left renal mass without local invasion or distant metastases (Figure 1). A radical nephrectomy was performed. Histology revealed a chromogranin positive phaeochromocytoma without capsular or vascular invasion (Figure 2). PASS was 8 (Scale 1-20). Urinary VMA was negative. After 9 months patient presented with a pulsatile scalp lump (Figure 3). Investigations showed multiple metastases in the liver, skull and ribs. Treatment was continued with combined chemotherapy.

Diagnosis of phaeochromocytoma is suspected by raised urinary catecholamines and its metabolites (metanephrins rather than vanillyl mandelic acid) or raised resting plasma catecholamines and plasma chromogranin A. Clonidine suppression and glucagon stimulation tests are done only in specialised centres. CT scans and MRI scans will localise the tumour. Isotope scanning with metaiodobenzylguanidine (mIBG) express 90% success [2,3].

Although the present case represents a clinically non hormone secreting phaeochromocytoma without blood pressure fluctuations, a hormone secreting tumour...