HEMIHYPERHIDROSIS AND INTRATHORACIC MALIGNANCY

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SYNOPSIS

Two cases of hemilateral hyperhydrosis are reported: An 18 year old Chinese man with osteosarcoma and pulmonary secondaries, and a 50 year old Chinese man with poorly differentiated adenocarcinoma of the lung.

INTRODUCTION

Unilateral sweating has been seen to occur with lung cancer (1, 2), cervical rib (3) and thoracic vertebral osteoma (4). We report two cases of hemihyperhydrosis, one occurring in a young man who had osteosarcoma with pulmonary secondaries, and the other in a man with poorly differentiated adenocarcinoma of the lung.

Case 1

An 18 year old Chinese man was admitted to the hospital on 15/3/79 for a painful swelling at his right knee and weight loss for one month. He had no significant past medical history. There was a tender, red swelling at the medial aspect of the right upper tibia. Bone biopsy revealed osteosarcoma. An above-knee amputation was performed. The chest radiograph was normal. Post-operative recovery was satisfactory. He had two doses of cyclophosphamide and methotrexate and was discharged on 14/4/79. He failed to turn up until 29/1/80 when he complained of left chest pain and cough. He had clinical and radiologic evidence of a left pleural effusion. Pleural tap yielded bloodstained fluid which was negative for malignant cells. On 19/2/80, he was admitted for dyspnoea and again had evidence of a left pleural effusion. He was now febrile, wasted and pale. Chest radiograph showed a massive left pleural effusion with secondaries in the right lung (Fig. 1). Pleural tap yielded heavily bloodstained fluid. He was given blood transfusion and intravenous (i.v.) cyclophosphamide

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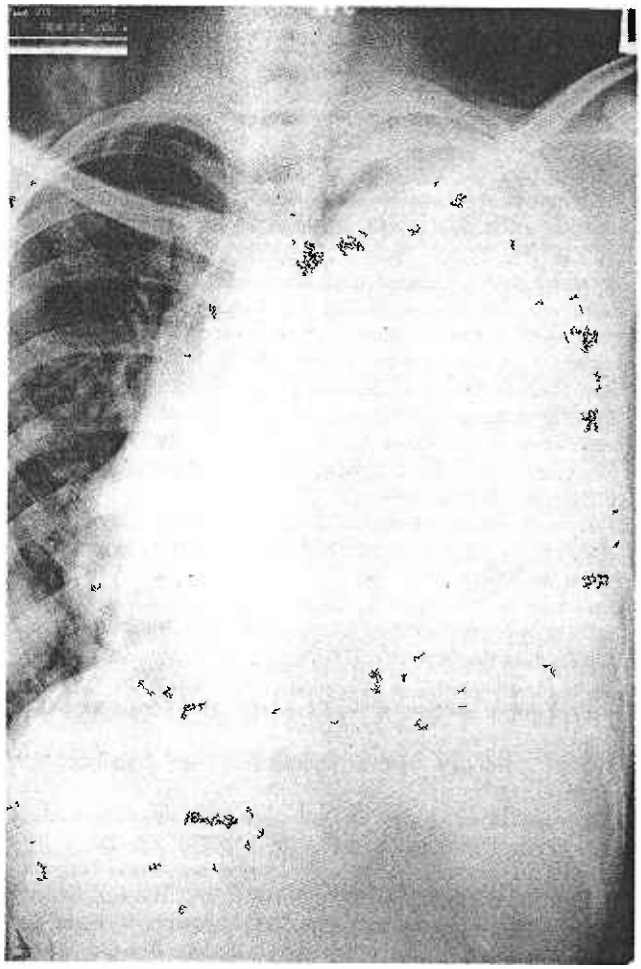

Figure 1 Massive left pleural effusion with metastasis in the right lung

and methotrexate on 4/3/80. On 13/3/80, he complained of increased sweating on the right side of his face and neck, and right upper limb. The excessive sweating on the face was confined to the right side and stopped short exactly in the midline. There was no distinct margin in the chest but the right arm perspired more than the left. There was no Horner's Syndrome. This hemihyperhydrosis persisted for the next two weeks and then ceased spontaneously. He remained febrile and deteriorated both clinically and radiologically despite another cycle of cytotoxic drug therapy. He was discharged on 21/4/80 at his own request.

Case 2

A 50 year old Chinese businessman was seen on 27/5/80 with vague right sided chest pain for one year. He also noticed increased sweating on the left side of his body. He was not a regular smoker and only had a few cigarettes occasionally in the previous year. He had hypertension on regular treatment for the last five years. His general condition was good and there was no finger clubbing. Blood pressure was 160/90mmHg. He was afebrile. There was increased sweating on the left side of his body with a distinct margin in the midline at his face and chest. There was no Horner's syndrome. Examination of the chest showed the movements, percussion note and breath sounds were all diminished on the right side. There was no hepatosplenomegaly nor lymphadenopathy. Haemoglobin, white cell count, urea and electrolytes, and urinanalysis were all normal. His chest x-ray showed right pleural thickening, an anterior mediastinal mass and a raised right hemi-diaphragm. (Fig. 2) The left lung field was clear. On bronchoscopy, no tumour was seen. An exploratory thoracotomy was performed on 19/6/80. This revealed secondary deposits in the pleura and lung, and an anterior mediastinal mass. Biopsy of the mass revealed a poorly differentiated adenocarcinoma. He recovered satisfactorily from the operation and was discharged on 4/7/80. When seen two weeks later, he still had unilateral hyperhydrosis.

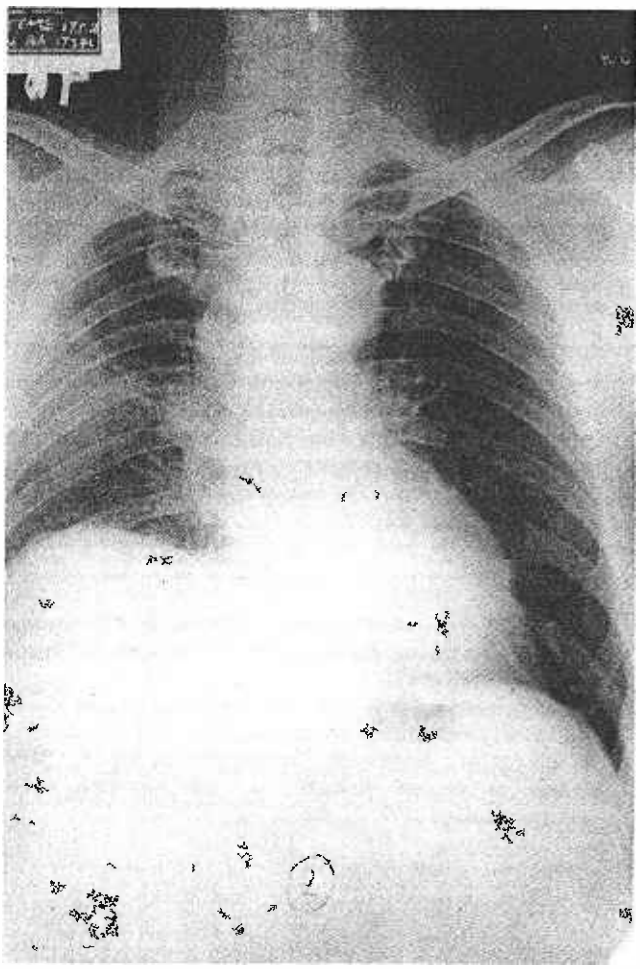

Figure 2 Right pleural thickening and a raised right hemi-diaphragm. An anterior mediastinal mass could also be seen.

DISCUSSION

Sweating is of two types, apocine and eccrine. Apocine sweating is confined to areas like the axillae, anogenital zone, nipple areola and external auditory meati, and it is not influenced by sympathetic denervation nor by anti-cholinergics. Eccrine sweating is mediated by sympathetic stimulation and is blocked by anti-cholinergics, and it occurs over the rest of the body. Eccrine sweating is of three types: gustatory, which occurs over the face especially; emotional, which occurs in the palms and soles (often called cold sweat); and thermal, which occurs all over the body but especially in the upper half. In both our patients, the sweating was eccrine. In the young man with osteosarcoma, the sweating was not only hemilateral

but also of gustatory pattern. It did not, however, become worse during meals nor was it aggravated by febrile spikes. In the man with lung cancer, his sweating was more of a thermal type, although he was afebrile.

Increased sweating may result from lesions anywhere from the central nervous system down to the peripheral nerve. Hemi-hyperhidrosis has been described in intra-medullary glioma and syringomyelia. After traumatic cord hemisection, it was seen to occur below the level. Hemi-facial sweating was also described as part of a focal convulsion occurring secondarily to an oligodendroglioma of the frontal lobe. In both our patients, the malignancy had spread widely within the thorax. It is possible that metastatic deposits had found their way to areas in the central nervous system or sympathetic ganglia. Neither patient had neurologic deficits. Why the sweating subsided in the boy with osteosarcoma is uncertain. As he did not develop a Horner's Syndrome after the unilateral sweating ceased, it is not possible to postulate that an initially irritative lesion later became a destructive one. Also he did not respond to chemotherapy.

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