การวินิจฉัยทางเซลล์วิทยาของมะเร็งเมลาโนมาที่แพร่กระจายมาที่ช่องปอด

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Diagnostic Cytology of Metastatic Malignant Melanoma in Pleural Effusion : A Case Report

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รายงานผู้ป่วย

พระภิกษุอายุ 56 ปี หนึ่งอาทิตย์ก่อนมาโรงพยาบาล มีอาการเหนื่อยหอบ นอนราบไม่ได้ เบื่ออาหารและไอแห้ง ๆ เมื่อ 6 เดือนก่อนมีประวัติพบก้อนในท้องบริเวณล่างขวาขนาด 10 เซนติเมตร และก้อนบริเวณกลางท้องขนาด 2 เซนติเมตร ผลการเอกซเรย์ทรวงอกพบน้ำในช่องปอดข้างขวาจำนวนมาก แพทย์วินิจฉัยทางคลินิกเป็นมะเร็งปอดหรือมะเร็งที่แพร่กระจายมาจากอวัยวะอื่น ผลการวินิจฉัยทางเซลล์วิทยาของน้ำในช่องปอดและชิ้นเนื้อเยื่อหุ้มปอด เป็นมะเร็งเมลาโนมา เมื่อทราบผลการวินิจฉัยทางเซลล์วิทยาแล้ว แพทย์ได้ตรวจร่างกายอีกครั้ง พบตุ่มเนื้อสีดำ 3 ตุ่มบริเวณส้นเท้าขวาด้านในขนาดตั้งแต่ 0.5 เซนติเมตร ถึง 1 เซนติเมตร โดยมีรอยแผลเป็นหลังการผ่าตัดอยู่ตรงกลาง

Case.

A-56-year-old male presented with a one-week history of dyspnea, orthopnia, nausea and dry cough. Six months ago, there was a history of two abdominal masses at right lower and central abdomen measuring 10 and 2 cm, respectively. Chest X-ray revealed right massive pleural effusion. The first impression was carcinoma of the lung or metastatic carcinoma. Metastatic malignant melanoma was diagnosed by cytologic diagnosis from pleural effusion and histopathologic diagnosis from pleural biopsy. Repeated physical examination found three black skin nodules at medial site of the right heel, varying from 0.5 to 1 cm. These three lesions located around the old surgical scar.

Background

Patients with advanced malignant melanoma (MM) frequently develop a serous effusion containing melanoma cells[1]. The diagnosis of MM in pleural effusion is made on the basis of the production of melanin pigments in cancer cells, which easily recognized by cytologic diagnosis[2]. In some effusion specimens all of the melanoma cells are amelanotic. The melanomatous nature of the neoplastic cells may be demonstrated by immunocytochemically stained with S-100 and HMB-45[3-5]. In 1982, WHO recorded the highest incidence of MM in white people (732 per 100,000) in Australia and New Zealand[6]. The incidence is more closely related to sporadic intensive exposure to sunlight rather than to chronic life-long exposure to ultraviolet radiation. The average age of MM was 49 years, with a range of 19 to 81 years[7]. Reference in Thailand in 1994[8], this tumor occurred in the age group of 18 to 82 years, and the female to male ratio was 1:1. The most common site was the lower extremities (55% in male, 88% in female), and less frequently in the chest wall, head, eyelids, buttocks and abdominal wall[8].

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by cytologic diagnosis from pleural effusion and histopathologic diagnosis from pleural biopsy. Repeated physical examination found three black skin nodules at medial site of the right heel, varying from 0.5 to 1 cm (Figure 1). These three lesions located around the old surgical scar. Three lymph nodes measuring 1 cm. each were seen at left axilla (Figure 2).

Cytopathology

The malignant cells in pleural effusion are round, about the same size or a slightly larger than mesothelial cells, arrange in cluster formation or isolate cells. The cytoplasm is abundant and contains brown melanin pigment on the Papanicolaou-stained smear (Figure 3). Melanin pigments are demonstrated by Fontana-masson ammoniated silver stained smear in Figure 4. Nuclei are central or eccentric and may contain large nucleoli. The background cellullarity consists predominantly of reactive mesothelial cells and scattered macrophages.

Histopathology

Pleural biopsy of MM shows malignant cells containing melanin pigment (Figure 5). The melamoma cells are positively stained by Fontana-masson ammoniated silver (Figure 6). The tumor is positive for S-100 protein by the avidin-biotin-immunoperxidase technigue (Figure7).

Conclusion.

Although metastatic MM is rare in Thailand, it is important to be aware in a case of serous pleural effusion that may be caused by metastatic MM. Differential diagnosis often includes adenocarcinoma or reactive

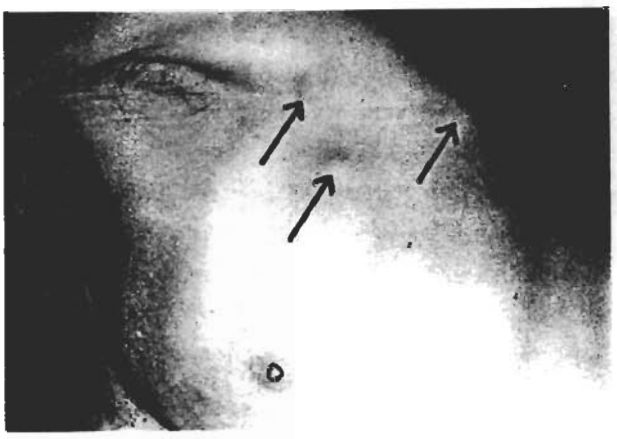

Figure 2 Metastatic malignant melanoma in three left axillary lymph nodes.

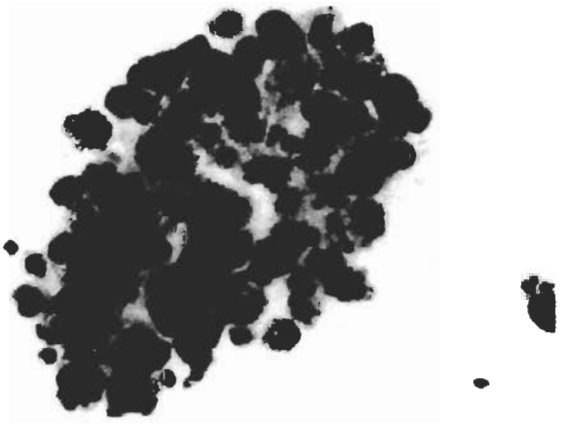

Figure 3 Pleural effusion of a metastatic malignant melanoma showing diffuse melanin pigment in the malignant cells (Papanicolaou stain, X600)

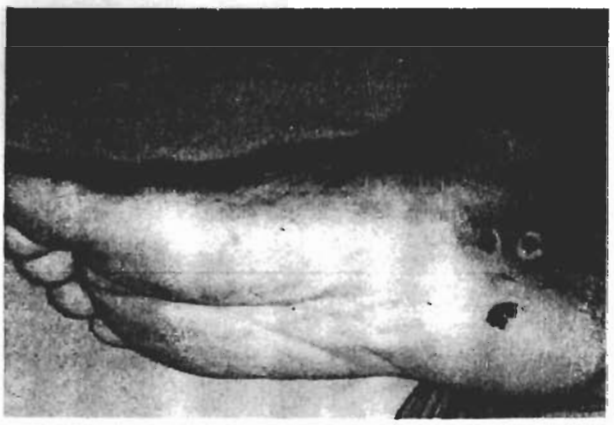

Figure 1 Repeated physical examination showing three black skin nodules at medial site of right heel. The three lesions locate around the old surgical scar.

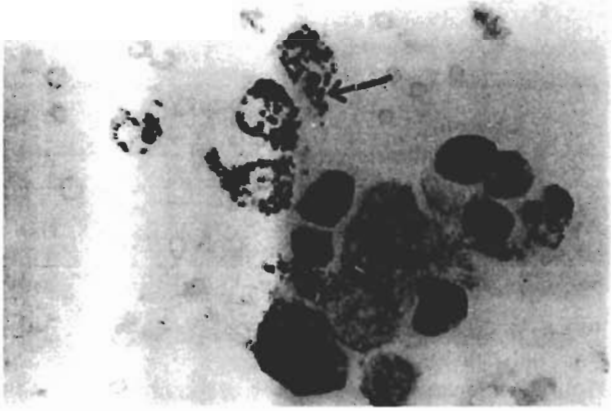

Figure 4 Positive staining of malignant melanoma cells with melanin pigment (Fontana-masson ammoniated silver, X600)

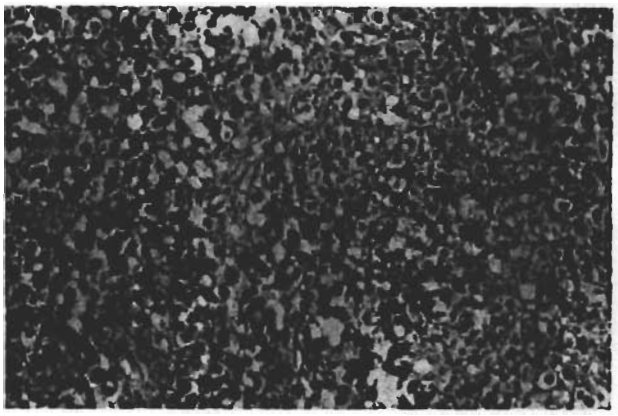

Figure 5 Pleural biopsy of metastatic malignant melanoma showing malignant cells full of melanin pigment (H&E, X200)

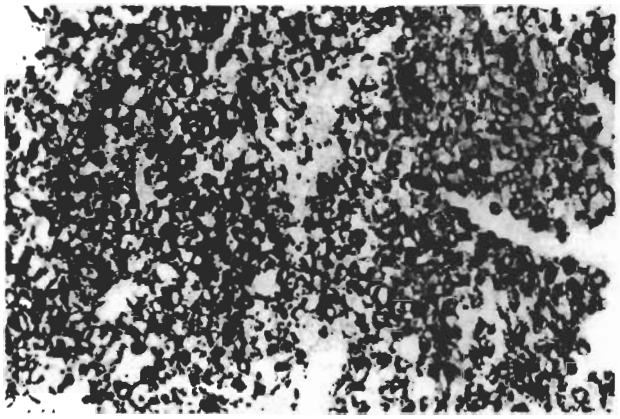

Figure 6 Positively staining by melanin (Fontana-masson ammoniated silver, X200)

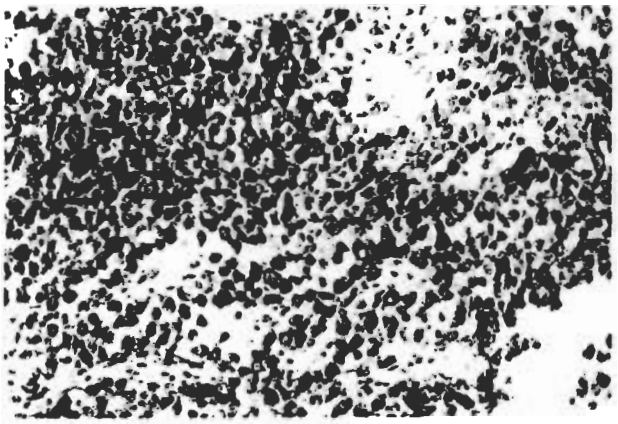

Figure 7 Intense positive staining of malignant cells with S-100 (Avidin-biotin-immunoperoxidase, X200)

mesothelial cells[9]. In case of the presence of cytoplasmic melanin pigments in cancer cells, it is easily identified on the Papanicolaou-stained smear and cytochemically stained. Melanin pigment must be analyzed carefully in order to avoid confusion with hemosiderin, carbon or lipofuscin pigment. A combination of morphology and immunocytochemistry should yield the most accurate diagnostic results. Cytologic diagnosis of effusion is useful in term of its simplicity, rapidity, accuracy, cost-effectiveness and non-invasiveness.

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