METASTATIC TUMORS OF THE HAND[1]

Report of Two Cases

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METASTATIC tumors of the hand are a great rarity and few are reported in the literature. A study by Copeland (6) of 334 metastatic malignancies of bone revealed only one case involving bones of the hand. Of 171 malignant tumors of the hand, Pack (11) listed only 2 metastatic tumors of the hand. Detailed case reports of 12 patients with metastatic tumors of the hand have been found in the literature. Of these 12 patients, 9 had carcinoma of the lung and one each had lymphosarcoma (9), bladder carcinoma (3) and chorionepithelioma of the testicle (13). In addition to these case reports, references were found in the literature of metastases to the hand from parotid gland tumor (4), breast tumor (4, 15), endometrioma of the uterus (7) and lung tumor (1).

The histories of the 9 patients with carcinoma of the lung metastatic to the hand showed a number of marked similarities in the clinical and pathological pictures (2, 5, 8, 10, 12, 14, 15, 16). Eight patients had metastases to the terminal phalanges, 2 had metastases to the proximal phalanges and 2 had metastases to the middle phalanges of a digit. Roentgenograms consistently revealed the presence of an osteolytic lesion of the phalanx without involvement of the adjacent joints. In 3 patients the phalangeal metastases were the only bony lesions present. The metastatic lesion of the hand often resembled an inflammatory process such as a felon, osteomyelitis or paronychia.

Diagnosis of the carcinoma of the lung was confirmed by autopsy (4 cases) or by clinical, bronchoscopic or x-ray findings (5 cases). The diagnosis of the metastatic hand lesions was established by aspiration biopsy (4 cases), incision and currettage (1 case), amputation (1 case), incision biopsy (2 cases) and at necropsy (1 case).

We have observed and would like to record two instances of metastatic lesions of the hand.

Case Reports

Case 1. W. F., a male of 56, had a right orchidectomy for chorionepithelioma performed by Dr. Leander W. Riba in Passavant Memorial Hospital on January 15, 1935. The operation was supplemented by deep x-ray therapy. On March 13, 1935, the patient was again admitted to hospital because of episodes of hemoptysis. At this time metastasis to the lung was established. He was seen by one of us (M.L.M.) on March 23, 1935, because of an increasing blue-black discoloration in the nail bed of the right middle finger which the patient had noticed three weeks previously. There was no pain and only slight tenderness. The nail and eponychium were elevated by a dark fluctuant mass, opaque to transillumination (fig. 1). X-rays of the finger showed soft tissue swelling but no bony involvement. On April 1, 1935, the patient expired, and autopsy revealed metastatic chorionepithelioma to the lungs, liver, kidneys, brain, peritoneum, lymph nodes, right middle finger and skin of the back (fig. 2).

Case 2. M. F., a male of 45, was first admitted to Passavant Hospital on the service of Dr. Arthur J. Atkinson on August 3, 1950, and the diagnosis of an undifferentiated oat cell type of carcinoma of the lung was established by bronchoscopic biopsy. A roentgenogram of the chest showed a mass in the right paratracheal region and multiple small areas of increased density throughout both lung fields. The patient was discharged from hospital as inoperable on August 12, 1950.

On September 12, 1950, the patient was admitted again to the hospital complaining of tenderness and swelling of the left thumb of two weeks' duration. Examination showed a diffuse symmetrical swelling of the thumb distal to the interphalangeal joint. The nail was elevated from its base and the distal phalanx was diffusely reddened and tender to palpation. Diagnosis of felon with osteomyelitis was made by the surgical fellow and incision of the distal closed space of the thumb was performed. A gray-brown granulomatous tissue was encountered and the surgeon was unable to identify the presence of any bony structure. The tissue

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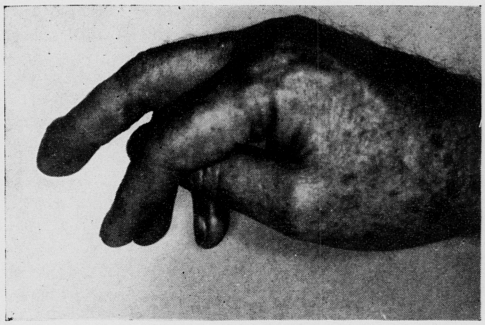

Fig. 1, Case 1. Subungual chorionepithelioma of finger.

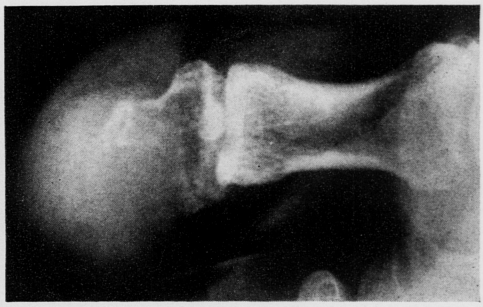

Fig. 2, Case 1. Photomicrograph of chorionepithelioma of testis.

removed from the thumb was reported as undifferentiated carcinoma (fig. 3). X-rays (fig. 4) taken the day following operation showed marked erosion of the distal phalanx of the thumb.

The patient was admitted to hospital for the third time on September 24, 1950, and expired soon after admission. Autopsy revealed bronchogenic carcinoma with widespread metastases to the lungs, liver, spleen, trachea, left thumb, left great toe and lymph nodes.

Summary

Two cases of metastatic tumor to the fingers are reported. One patient had a subungual lesion secondary to chorionepithelioma of the testis. The other patient had an osteolytic lesion of the distal phalanx of the thumb secondary to carcinoma of the lung. When first seen, the latter lesion was thought to be a felon. In both patients the cause of the primary lesion had been established before the appearance of the metastatic tumor. Although rare, metastatic malignant lesions of the hand should be considered in the differential diagnosis of infections, trauma and tumors of the hand.

References

1. Brady, L. and Kahn, S.: *Trauma and Disease*, Philadelphia, Lea and Febiger, p. 471, 1941.
2. Brason, F. W., Eschner, E. G., Sanes, S. and Milkey, G.: Secondary Carcinoma of the Phalanges, Radiology, 57:864-867, 1951.

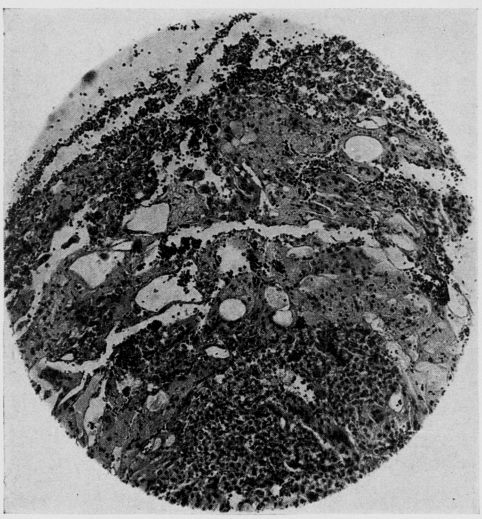

Fig. 3, Case 2. Metastatic lung carcinoma in distal phalanx of thumb, photomicrograph.

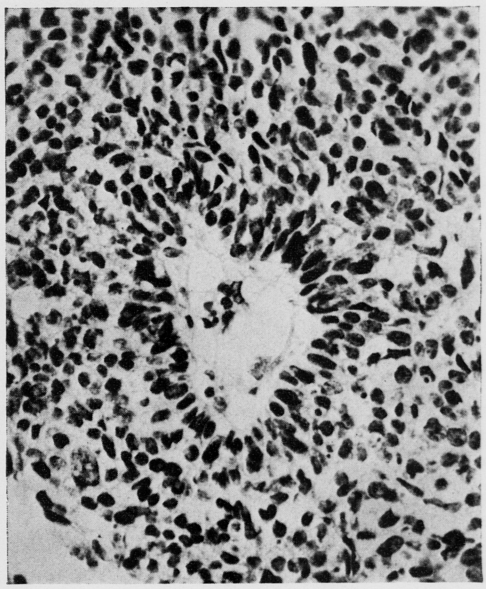

Fig. 4, Case 2. Roentgenogram of osteolytic metastatic lung carcinoma in thumb.

3. Carando, M.: Metastasi Falangea di Carcinoma della Vescica, Urologia, 3:256-261, 1951.
4. Coley, B. L. and Higinbotham, N. L.: Tumors Primary in Bones of Hands and Feet, Surgery, 5:112-128, 1939.
5. Colson, G. M., Willcox, A.: Phalangeal Metastases in Bronchogenic Carcinoma, Lancet, 1:100-102, 1948.
6. Copeland, M. M.: Skeletal Metastases Arising from Carcinoma and Sarcoma, Arch. Surg., 23:581-654, 1931.
7. De Costa, C.: An Unusual Case of Endometriosis, J.A.M.A., 138:907, 1948 (Foreign Letters, Brazil) .
8. Floridis, G. G., Nixon, C. E. and Ginsburg, H. M.: Primary Carcinoma of the Lung with Unusual Manifestations, California and Western Medicine, 40:365-367, 1934.
9. Frank, V. H. and Pratt, C. I.: A Lymphosarcoma with Metastases, J. Oral Surg., 9:19-24, 1951.
10. Freni, D. R. and Averill, J. H.: Metastatic Carcinoma of the Lung to the Thumb, Am. J. Surg., 83:115-116, 1952.
11. Pack, G. T.: Symposium—Tumors of the Hands and Feet, Surgery, 5:1-26, 1939.
12. Rendich, R. A. and Levy, A. H.: Unusual Metastatic Bone Lesions, Am. J. Roentgenol., 46:343-350, 1941.
13. Riba, L. W.: Testicular Tumors—Chorionepithelioma with Generalized and Skin Metastases, S. Clinics, North America, 30:151-166, 1950.
14. Ross, E. F. and Fodden, J. H.: Metastasis of Bronchogenic Carcinoma to the Thumb, Canad. M.A.J., 61:310-312, 1949.
15. Smithers, D. W. and Price, L.W.R.: Isolated Secondary Deposit in a Terminal Phalanx in a Case of Squamous Cell Carcinoma of the Lung, Brit. J. Radiol., 8:299-300, 1945.
16. Strang R.: Phalangeal Metastases as a First Clinical Sign of Bronchogenic Carcinoma, Brit. J. Surg., 39:372-373, 1952.