

## A Case Report

# Metastasis of an Esophageal Carcinoma to the Soft Tissue in the Elbow

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## INTRODUCTION

Squamous cell carcinoma of the esophagus is an aggressive tumor characterized by extensive local growth, lymph node metastasis, and invasion of adjacent structures before becoming more widely disseminated.<sup>1</sup> Distant metastasis of esophagus is relatively rare.<sup>1,2</sup> Metastasis to soft tissues, especially in the elbow, is exceedingly rare and so far not reported in the literature. We present a recently encountered case of soft tissue metastasis in the elbow from squamous cell carcinoma of the esophagus, mimicking hematoma and abscess at the patient's antecubital phlebotomy site.

## CASE PROFILE

This 65-year-old African-American woman presented in September, 2000 with dysphagia to solid food, weight loss, fatigue, generalized weakness, and anorexia. An upper gastrointestinal series showed a narrowing of the proximal and midesophagus, suspicious for esophageal cancer. Computerized tomography scanning of thorax, abdomen, and pelvis showed a heterogeneous mass in the proximal esophagus (3.7×3×7.8 cm), multiple lymph nodes in the mediastinum, and a 6×8 cm density in left upper lobe of lung. Subsequently, the patient underwent an esophago-gastroduodenoscopy, which showed a single large friable fungating irregular obstructing mass in the esophagus. Biopsy of the mass revealed invasive squamous cell carcinoma (Fig. 1). The patient chose palliative radiation therapy.

One month later, she presented with a swelling in the right elbow, which was noticed shortly after an intravenous line had infiltrated from her right antecubital fossa. Initially, it was thought to be related to an intravenous infiltration, hematoma, or abscess. The swelling progressed very rapidly with development of mild flexion deformity of the right elbow. On clinical examination a mass was palpated on both the medial and lateral aspects of elbow with no external evidence of ecchymosis. Magnetic resonance imaging showed a complex mass in the right antecubital region with signals characteristic of hematoma (Fig. 2). The patient then underwent exploration of right elbow with biopsy, which revealed

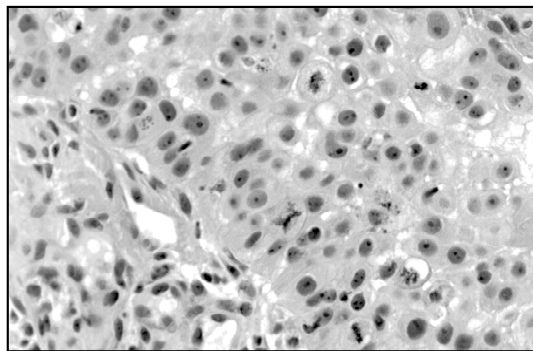
invasive squamous cell carcinoma (Fig. 3) consistent with metastatic squamous cell carcinoma. A whole-body technetium-99m bone scan was negative for bony metastasis or acute fracture.

The patient again opted for supportive care and palliative radiation to right elbow. She later developed secondary infection and abscess, which responded to drainage and antibiotic treatment. The patient elected hospice care and died on March 25, 2001.

## DISCUSSION

Carcinoma of the esophagus is an aggressive neoplasm that spreads locally via the lymphatic system and hematogenously most commonly to the lung, liver, bone, adrenal gland, and kidney.<sup>3</sup> Metastasis to soft tissue is rare; metastasis to the elbow is even more rare.<sup>4</sup> The most commonly reported primary carcinomas that result in clinically recognized soft tissue metastases are those of the lung, kidney, and colon.<sup>4,5</sup> Occasionally, metastatic carcinoma to soft tissue from an unknown primary is also reported.<sup>6</sup> Other primary carcinomas reported to metastasize to soft tissue are ovarian, gastric, prostatic, hepatocellular, bladder, pancreatic, cervical, hypopharyngeal, uterine, and rarely esophagus.<sup>5,7</sup> Most carcinomas

**FIGURE 1. ESOPHAGEAL BIOPSY SHOWING INVASIVE SQUAMOUS CELL CARCINOMA (H & E STAIN, 400×)**



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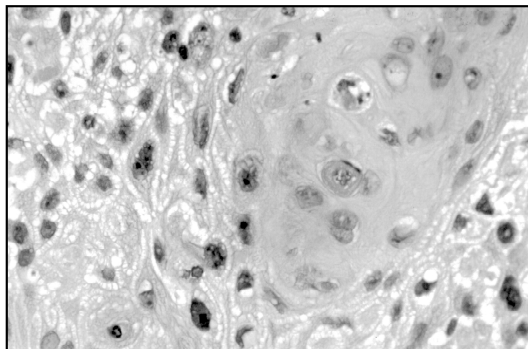
**FIGURE 2. MRI IMAGES OF RIGHT ELBOW SHOWING HETEROGENOUS SOFT TISSUE MASS WITH SURROUNDING EDEMA**



MRI=magnetic resonance imaging.

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**FIGURE 3. SOFT TISSUE BIOPSY, ELBOW REGION SHOWING INVASIVE SQUAMOUS CELL CARCINOMA (H & E STAIN, 400X)**



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that metastasize to soft tissue are adenocarcinomas; the most likely primary site is the lung followed by colon and stomach. In the case of a squamous cell carcinoma metastasizing to soft tissue, the most likely primary is the lung; occasionally it is the cervix or hypopharynx, and rarely the esophagus.<sup>5,7</sup>

In clinical reports, the thigh muscles (especially the quadriceps), psoas, lumbar paraspinals, and gluteal muscles are the most frequent sites of involvement. Other reported sites include the shoulder, biceps, soft tissues of the fingers, and calf muscles.<sup>5,8</sup> Soft tissue metastasis to the elbow from squamous cell carcinoma of the esophagus is extremely rare. To our knowledge, there is no previous report in the literature. Although prognosis is dismal even with accurate early diagnosis, radiation therapy does seem to have value in relieving pain. The possibility that the soft tissue mass in the elbow might have been an initial presentation of a previously silent second primary tumor is highly unlikely, in view of the striking similarity between the metastatic lesion and the primary esophagus tumor, lack of epidermal changes in the biopsy, and unusual location for a primary squamous cell carcinoma of the skin. Finally, this case is illustrative of the rapid course and poor prognosis associated with this lesion. **OS**

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