

# Umbilical Metastasis From Oesophageal Squamous Cell Carcinoma: A Case Report

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## Abstract

Metastasis to the umbilicus from a malignant neoplasm is a rare occurrence. In most cases where a primary tumour is found, it tends to be intra-abdominal and histology reveals adenocarcinoma. We report a case of a male patient suffering from a tumour of the thoracic oesophagus who, at first presentation, was found to have a nodular mass at the umbilicus. Investigation showed him to be suffering from squamous cell carcinoma of the mid-oesophagus. A fine needle aspiration of the umbilical nodule was performed and revealed metastatic squamous cell carcinoma. To the best of our knowledge, this is the first reported occurrence of an umbilical metastasis from an oesophageal squamous cell primary.

## INTRODUCTION

Dysphagia is the most important presenting symptom of patients with oesophageal cancer, although many patients are found to have cervical lymphadenopathy or more distant metastases upon examination. The finding of a patient with metastasis of oesophageal squamous cell carcinoma to the umbilicus prompted a review of the literature to study the frequency of this occurrence. As far as we are aware, metastasis to the umbilicus from a primary oesophageal carcinoma has not previously been described. In addition, the only reports in the literature of squamous cell carcinoma metastatic to the umbilicus have been in females with genital tract primary tumours. Metastasis to the umbilicus, or Sister Mary Joseph's nodule, is a well described, although rare, form of cutaneous metastasis (1, 2). It often presents as the first sign of intra-abdominal malignancy, usually represents advanced disease and carries a very poor prognosis. We present below the first report of a patient with oesophageal squamous cell carcinoma metastatic to the umbilicus.

## CASE REPORT

The patient is a 78-year-old male, who presented to our hospital with a two-month history of dysphagia for solids. He had smoked a pipe for sixty years, but had had no significant illnesses, and no hospitalizations, prior to presentation at our hospital. He measured 155 cm in height, weighed 55 kg (BMI 22.9 kg/metre square) and was found to have painless left-sided supraclavicular lymphadenopathy. On abdominal examination, a hard, nodular mass measuring

approximately 1 cm in diameter was seen at the umbilicus (Fig 1). There were no scars of previous abdominal surgery. Rectal examination was normal. Investigation showed a haemoglobin of 12.6 g/dl, serum urea nitrogen of 24 mg/dl (normal 7-21 mg/dl), normal electrolytes, creatinine and liver function tests apart from a serum albumin of 3.5 g/dl (normal 3.9-5.0 g/dl). A chest radiograph showed bilateral diffuse nodular shadowing consistent with pulmonary metastases. Upper gastrointestinal endoscopy showed the presence of a mid-oesophageal tumour, starting at 31 cm from the incisors and extending distally for 7 cm. The gastro-oesophageal junction was at 40 cm and was macroscopically free of tumour. The stomach was normal apart from an impression of extrinsic compression of the antral region. The first and second parts of the duodenum were normal. Biopsies were taken from the oesophageal tumour as well as from the gastro-oesophageal junction.

**Figure 1**



The oesophageal biopsies showed oesophageal mucosa infiltrated by nests and irregular clusters of cells with pale eosinophilic cytoplasm and pleomorphic, hyperchromatic nuclei with prominent nucleoli. Focal inter-cellular bridging and rare individual cell keratinization were seen along with increased mitoses. The surrounding stroma was inflamed and desmoplastic. These findings were felt to be consistent with a diagnosis of poorly differentiated squamous cell carcinoma. Biopsies from the gastro-oesophageal junction were within normal limits. A fine needle aspirate of the umbilical mass was performed. Cytological examination of the material obtained revealed clusters, sheets and single atypical epithelial cells with dense, abundant and occasionally orangophilic cytoplasm on Papanicolaou stain. Large nuclei containing prominent nucleoli, with considerable nuclear pleomorphism were evident. This was consistent with a metastatic carcinoma, favoring a squamous lineage. A final diagnosis of metastatic squamous cell carcinoma of the oesophagus was made.

In view of the widespread nature of the disease, with histologically confirmed distant metastases, it was felt appropriate to provide palliative treatment only. To this end, an 18 mm diameter Gianturco metal stent was inserted into the oesophagus, with good relief of dysphagia. The patient is currently under follow-up, four months after initial diagnosis.

## **DISCUSSION**

Metastasis to the umbilicus, or Sister Mary Joseph's nodule, is a well described, although rare, form of cutaneous metastasis (1, 2). It often presents as the first sign of intra-

abdominal malignancy, usually represents advanced disease and carries a very poor prognosis (1). It typically arises from intra-abdominal adenocarcinoma, but is also reported from hepatocellular carcinoma (3), carcinoid tumour (4), lymphoma (5), small cell (6) and non-small cell lung cancer (7). Only two cases from patients with primary squamous cell carcinoma have previously been described. Both patients were female, one with a primary tumour of the cervix (8) and one with a vaginal primary (9). Umbilical metastases have also been described following laparoscopy, at the site of insertion of the abdominal trocar (10), presumably as a result of direct implantation of tumour cells. The patient we report had not undergone laparoscopy or any other surgical procedure.

Various modes of spread of tumour to the umbilicus are postulated. These include direct extension from contiguous tumour (11), haematogenous or lymphatic spread and spread by direct extension along the vestigial remnants of embryonal ligaments. In addition, direct implantation, as described above following laparoscopy, is another mode of spread of tumour to the umbilicus. Goodheart and colleagues (11) describe a patient with ovarian carcinoma in whom it was possible to confirm direct extension of tumour to the umbilicus on histological sections. It is well-known that the vestigial remnants of several embryonal structures, including the urachus, the vitelline artery, the vitellointestinal duct and the round ligament of the liver pass to the umbilicus. Extension of tumour along these structures has been suggested (11) as a possible means of spread of tumour to the umbilicus.

The commonest sites of metastasis from oesophageal squamous cell carcinoma include regional lymph nodes, liver, lung and bone. Metastasis to the umbilicus from a primary oesophageal carcinoma has not previously been described. Most umbilical metastases tend to be adenocarcinomata, although various other tumour types have been described. The case we report here represents an extremely rare occurrence, combining, as it does, an oesophageal primary and squamous cell histology. The finding of a metastasis at the umbilicus usually triggers a search for an intra-abdominal adenocarcinoma. This case serves to illustrate the fact that, in patients with metastasis to the umbilicus, the primary tumour may be at a more distant and unusual site.

## **LEARNING OR SUMMARY POINTS**

1. Umbilical metastases from intra-abdominal

malignancy are an unusual occurrence.

2. In most cases where a primary tumour is found, it tends to be intra-abdominal.
3. In most cases where a primary tumour is found, histology reveals adenocarcinoma.
4. The possibility of a more unusual primary site, as well as alternative forms of histology, when assessing a patient with an umbilical metastasis, needs to be borne in mind. Not all patients with umbilical metastases have an intra-abdominal primary source and the histology is not always adenocarcinoma.
5. Fine needle aspirate of umbilical metastases is a safe and relatively straight-forward method of establishing a histological diagnosis in the appropriate clinical setting.

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