A rare metastases of a colorectal primary to the clavicle

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ABSTRACT

INTRODUCTION: Colorectal cancer is the third commonest cancer in the UK. The commonest site of colorectal cancer metastases is the liver, followed by lungs. Metastases to small bones are recognised but are a rare occurrence of colorectal malignancy.

PRESENTATION OF CASE: A 92 year old lady presented with a swollen, fractured right clavicle following a fall. On follow up, a swelling of approximately 10 cm was still noted in the area. A CT scan revealed a ten by ten centimetres mass arising from the clavicle and a 9 cm mass arising from the left aspect of the sacrum. She was also found to have complete collapse of the left lung with an underlying mass and a mass within the right lung. Biopsy of the clavicular mass was suggestive of metastatic colorectal adenocarcinoma. She had undergone an anterior resection for Dukes C adenocarcinoma six years previously.

DISCUSSION: This case demonstrates the rare metastases of a colorectal primary to the clavicle, a clavicle metastases of this size has not been previously reported in literature.

CONCLUSION: A high index of suspicion for potential of small bone metastases has to be entertained in a patient presenting with a non-healing fracture and a history of colorectal carcinoma.

1. Background

Colorectal cancer is the third commonest cancer in both genders in the UK. The commonest site of colorectal cancer metastases is the liver, followed by lungs. Metastases to small bones are recognised but are a rare presenting feature of colorectal malignancy. This case report describes a large clavicle metastases, the size of which has not been previously reported in the literature.

2. Case presentation

An 86 year old lady had an anterior resection for a Dukes C adenocarcinoma of the rectum. Her past medical history included a diagnosis of chronic obstructive pulmonary disease. She was followed up in clinic for five years following her surgery.

In 2008 she was treated in the community for pneumonia and a follow up chest X-ray revealed two opacities in the middle and lower zones of the left lung. A computed tomography (CT) scan was performed which showed two masses in the chest, one arising from the proximal left lower lobe bronchus and one at the left base. Increased bone density was noted in the right acetabulum and right clavicle with evidence of bony expansion. The histology of the bronchial biopsy revealed adenocarcinoma, immunostaining was cytokeratin 20 (CK20) positive with variable nuclear positivity for thyroid transcription factor 1 (TTF-1). A normal colonoscopy was performed. Her serum carcino-embryonic antigen (CEA) was raised at 97 μg/L (normal range 0–5) so this was regarded as metastases of her original colonic carcinoma.

At the age of 92 (August 2010) she presented with a fractured right clavicle following a fall (Fig. 1). She was reviewed in fracture clinic two weeks after the fall. She had noticed a pre-existing swelling over the clavicle, prior to the fall but this increased dramatically following the fracture.

Three months later she was referred to the colorectal team for further management. On examination a swelling of approximately 10 cm was noted in the supraclavicular region. A repeat CT scan of the chest abdomen and pelvis was arranged which showed a well defined ten by ten centimetre mass arising from the right clavicle (Fig. 2), a 9 cm mass arising from the left side of the sacrum, invading into the spinal canal.

There was complete collapse of the left lung with a large underlying mass and small left pleural effusion, a 2 cm mass in the lower lobe of the right lung and a 2.3 cm right adrenal mass (Fig. 3).

An ultrasound guided biopsy of the right clavicular mass showed a moderately differentiated adenocarcinoma, immunostaining was CK20 and CDX2 positive and cytokeratin 7 (CK7) and TTF-1 negative.

She was discussed at the colorectal multidisciplinary meeting and given her clinical condition it was felt that palliative care was...
These four cancer types account for more than half of all cancer cases reported in the United Kingdom. Metastases of colorectal carcinoma to bone is uncommon and usually occurs late in the disease process. Bone metastases rarely occur in isolation, data published by Kantham et al. showed eighty-three percent of patients with bone metastases also had either lung, liver or brain metastases. This patient had multiple lung metastases in addition to the bony metastases.

Clavicle metastases are extremely rare and one of this size has not been previously reported in the literature. Literature reviews have only found two existing case reports of clavicle metastases from a colorectal primary. One of these metastases was a radiological finding and the other measured approximately 5 cm. The time between the anterior resection and the identification of the clavicle metastases was approximately five years, this is substantially longer than in either of the existing cases reported. In one of them it was a pre-operative finding and the second occurred after approximately one year. Clavicular metastases are more commonly recognised from renal cell carcinoma, present in thirteen percent of patients with bony metastases. Primary clavicular malignant tumours are similarly extremely rare, they account for between 0.45 and 1.01% of all bone tumours.

This case demonstrates the importance of an awareness of the potential of bowel carcinoma to metastases to small bones. Her CT scan eighteen months prior to the fall showed an area of increased bone density within the right clavicle, the radiological findings at this point were suggestive of Paget’s disease. The last CT scan was reported as likely metastases but the appearance was considered unusual and it was suggested it may represent a primary bone tumour. Therefore the multidisciplinary team concluded that she needed a biopsy to demonstrate whether this was a primary or a secondary tumour and if it was a secondary to provide information about the likely source of the primary.

Previous papers have shown the results of isotope bone scanning can be equivocal and in these instances biopsy or MRI are the most sensitive modalities. Early detection allows consideration of treatment options such as radiotherapy at an earlier stage. Clivectomy in patients with a single bony metastases from renal cell carcinoma has been shown to significantly increase survival.

4. Conclusion

This case demonstrates the rare metastases of a colorectal primary to the clavicle, a clavicle metastases of this size has not been previously reported in literature. The potential for small bone metastases and the importance of investigation in patients presenting with a fracture and a history of colorectal carcinoma is illustrated.

Conflict of interest statement

None declared.

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Ethical approval

The patient has signed an agreement form for the publication of this case report and the accompanying images. A copy of the form is available for review by the Editor-in-Chief of the journal on request.
Author contributions

All three authors contributed to the study design, data collections, literature review and writing.

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