Small Bowel Melanoma Metastasing to Inguinal Lymph Node - a Rare Case

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Received: 19 July 2014 / Accepted: 6 January 2015 / Published online: 16 January 2015
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Abstract Malignant Melanoma is one of the commonest cutaneous malignancies affecting human beings. The gastrointestinal tract is a common site for melanoma, both as primary and metastases. However it is rare for gastrointestinal melanoma to metastasise outside of the abdominal cavity. In the literature, there is no evidence about inguinal lymph node metastases from small bowel melanoma. Here we present a case report of an old lady who underwent laparoscopic resection of small bowel for melanoma and presented 4 years later with metastatic lymph node in inguinal lymph node. Though it could not be verified, we hypothesise that the tumour disseminated to the lymph node through a port-site metastases. Literature review shows several mechanisms which were put forward to explain the mechanism of port-site metastases.

Keywords Malignant melanoma · Inguinal lymph node · Port-site metastases · Small bowel tumours

Introduction

Malignant melanoma, also referred to as melanosarcoma or melanoepithelioma, is one of the most malignant tumours encountered in humans. The gastrointestinal tract

is a common site for primary as well as metastatic melanomas. Though there are reports of numerous metastatic sites for melanoma, there is no reported case of non-anal canal gastrointestinal melanoma metastasising to inguinal lymph nodes. We present a rare case of an elderly female presenting with inguinal node metastasis from small bowel melanoma.

Case Report

A 68 year old female presented with history of a slowly growing swelling in the right groin of 6 months duration. She had a history of laparoscopic surgery done 4 years earlier at a peripheral hospital for small bowel obstruction. Analysis of the records showed that she had undergone a laparoscopic ileal resection for intussusception, which was pathologically diagnosed as malignant melanoma.

The present swelling was found to be of 6 cm maximum size, occupying the right inguinal region, firm, and with restricted mobility. Ultrasound report was given as enlarged soft tissue swelling abutting the femoral vessels. FNAC was inconclusive, being reported as an infiltrative neoplasm. Based on these findings, the patient was posted for surgical exploration. Intraoperatively, the swelling was found to be a discrete right inguinal lymph node. Gross analysis revealed melanotic areas inside the specimen (Figs. 1, 2 and 3). Histological analysis confirmed the lymph node to be metastases from malignant melanoma. On doing immuno-histochemistry, Vimentin and S 100 were positive. Postoperative endoscopy and detailed examination were done to confirm absence of melanotic lesions in the gastrointestinal tract or in the region of port-sites.

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Fig. 1 High power Electron Micrograph of the specimen showing Tumor cells

Discussion

Malignant Melanoma is a common malignancy which can present as cutaneous or mucosal lesions. Pathologically it is of four types: Superficial spreading, Acral lentiginous, Nodular and Lentigo maligna. Up to 60 % of patients with melanoma are found to have metastases at autopsy. However, the body seems to possess unusual resistance to metastasis from these tumours and it may be years after the appearance or removal of the primary growth before metastasis occur [1]. The gastrointestinal tract is a common site for malignant melanoma, the common sites being the small bowel (50 %), colon (30 %) and anorectum (25 %) [2]. Diagnosis of lesions in the gastrointestinal tract is usually delayed until complications such as obstruction, bleeding or perforation occur [3]. Though the vast majority of gastrointestinal melanomas are metastatic from a cutaneous primary, melanoma can arise *de novo* from some areas of the gastrointestinal tract.

By multivariate analysis, the two most important prognostic factors for long-term survival in metastatic melanoma were found to be complete resection of gastrointestinal metastases and gastrointestinal tract as the initial site of distant

Fig. 2 High power Electron Micrograph of the specimen showing pigment

Fig. 3 Cut open view of the inguinal lymph node specimen showing the melanotic areas

metastases. Almost all patients with gastrointestinal metastases can have palliation of symptoms by surgical intervention with minimal morbidity and mortality. The high 5-year survival rate associated with complete surgical resection of gastrointestinal metastases indicates that surgery should be strongly considered for these patients with metastatic melanoma [4].

The adaptation of laparoscopic procedures in malignancies has thrown up interesting reports of port-site metastases. In large series studies, the incidence of port-site metastases is around 1 % [5]. Some studies confirm that application of electrocautery to a pellet of melanoma cells releases these cells into the plume. These cells remain viable and may explain the appearance of port metastases at sites that are remote from the surgical dissection or were never in direct contact with the tumour [6]. As per literature, the development of port-site metastases depends not only on the physical redistribution of tumour cells but also on the specific gas used, possibly because of influences on local metabolic or immune factors. This phenomenon might be explained by the ‘Seed and Soil’ hypothesis as propounded originally by Stephen Paget. This hypothesis proposed that the organ-preference patterns of tumour metastasis are the product of favourable interactions between metastatic tumour cells (“seed”) and their organ microenvironment (“soil”) [7]. The factors held responsible for port-site metastases include direct wound contamination, surgical technique, effects of carbon-dioxide pneumoperitoneum, and changes in host immune response [8]. Some studies suggest that the incidence of wound metastasis may be decreased by gasless laparoscopy or insufflation with alternate gases like helium [9].

In our case, we have reported on a case of inguinal lymph node metastases from a laparoscopically operated case of small bowel melanoma. The probable route of dissemination may have been from occult metastases in port-site. We suggest that laparoscopic approach may be deferred in patients with bowel melanomas if diagnosed pre-operatively.

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