

Metastases in cutaneous and subcutaneous scars: an intriguing phenomenon that may herald the presence of a colon cancer

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Date accepted for publication 18 August 2008

Abstract

The occurrence of cutaneous metastases from colon cancer to cutaneous scars is being increasingly recognized and reported in the literature. Although the most common scenario involves scars resulting from prior resection of the cancer, rare instances represent distant involvement of scars from unrelated procedures. As well as being of interest as an intriguing biological phenomenon, recognition of cutaneous metastases can be of clinical relevance by pointing towards the existence of an occult internal malignancy.

Keywords

Cutaneous metastases; subcutaneous scar; colon cancer.

RE: Uchendu I, Hotouras A, Jonalagadda S, Osman K, Mandal A, Mathur D. Colonic cancer invading appendectomy incision: a case report and literature review. *Grand Rounds* 2008; 8: ??-??.

Cutaneous metastases are interesting phenomena, which occasionally lead to the initial diagnosis of a previously undiagnosed cancer. Although clinically striking in most cases, they comprise less than one-tenth of all the metastases produced by disseminated cancers. The occurrence of cutaneous metastases from colon cancer is an infrequent event^[1], which is most commonly observed in advanced, widely metastatic disease. Overall, colorectal cancer is the third most common source of skin metastases for both men and women, the most common primaries being in the lung (28%), melanoma (18%), gastrointestinal (colon, liver, small bowel) (14%), and genitourinary tract (10%)^[1]. Thus, out of all skin metastases, approximately 1 in 20 originates in a primary colonic tumor. While the incidence of colorectal metastases to the skin appears to be slightly higher in males than in females, various aspects have been described at presentation: pedunculated nodules, botryoid grouped vascular nodules, inflammatory carcinoma, scalp pseudo-cysts, etc.^[2]. All body sites can be involved with metastases from colon cancer, but the abdominal and perineal regions are favored.

Even more rare is the localization of colon metastases in cutaneous scars after tumor resection, which develops in approximately 0.6% of cases^[3]; the involvement of subcutaneous scar tissue is exceptionally rare^[4-6]. The vast majority of scar metastases in the setting of colon cancer are

localized in the tumor surgical resection scar, with very few encountered in distant scars resulting from different, previous surgeries, e.g. from an old prostatectomy or cholecystectomy^[4,5]. In this context, the case of Uchendu *et al.* is unique, as the colonic tumor extended directly into the postoperative scar from a prior appendectomy, performed 50 years before. Such a direct extension to the skin can also be encountered with other neoplasias, such as Paget's disease of the breast, and in extra-mammary Paget's disease in the axilla, perineum, and perianal regions^[2].

Localization in scars may originate from a favorable environment that would host and adequately nourish the tumor, or through a high vascular and lymphatic regional density which ensures hematogenous or lymphatic type of spread. A molecular compatibility of the cancer cells with the adhesion molecules expressed by the scar tissue elements may also be involved in tumor localization to scars. A favoring factor may be the presence of epidermal growth factor (EGF)-EGFR interactions, as the ligand present in the scar tissue may have growth stimulating properties on colon cancer cells, which are known to be frequently EGF driven and to respond to the inhibition of this growth pathway^[7]. Finally, it is interesting to remark that tissue trauma such as surgical manipulation has been noted to be associated with localization of tumoral metastases, such as in the two different instances of perineal spread of rectal adenocarcinoma^[8].

Most skin metastases from colon cancer become clinically manifest well after the diagnosis of the primary tumor, with an average delay ranging from 5 to 15 years, and usually only after the liver becomes involved with metastatic deposits. Nevertheless, it is important to be aware that cutaneous metastases can be encountered at the presentation of colon cancer^[4,5,9], as also shown in the current report.

Cutaneous metastases are commonly thought to be associated with poor average survival, with an average of 3.3 months after diagnosis^[1], but long survival has been well documented^[7], raising the possibility that aggressive surgical resection and the use of systemic chemotherapy may make a difference in the progression of this type of metastatic disease.

In conclusion, the Grand Rounds case presented by Dr Uchendu *et al.* is an interesting and unique situation where colon cancer presented with subcutaneous involvement by direct extension, in a scar that resulting from a remote prior appendectomy. The present case reinforces the need for a careful physical exam, and provides a useful opportunity to review the occurrence, patterns of manifestation, and the clinical and biological significance of cutaneous metastases produced by colon cancer.

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