Fine Needle Aspiration Diagnosed Skin Metastasis in a Young Man with Rectal Cancer

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Abstract

Introduction: Although colon cancer is one of the most common human cancers, skin metastasis in this disease is rare and necessitates pathological confirmation.

Report of the case: Herein we present a 33 year old man with rectal cancer with ascites. Six cycles of Oxaliplatin based chemotherapy were given. The ascites improved. After three weeks, skin lesions appeared in the upper trunk, both chest wall and back, with extension to the anterior neck Fine Needle Aspiration from the lesions showed malignancy and second line chemotherapy was started. Although the skin lesions showed partial response, unfortunately, the patient died after the fourth chemotherapy injection.

Conclusion: Skin metastasis in colorectal cancer, although rare, is a devastating sign, and a careful dermatologic examination should be included in these patients' follow up visits.

Key words: rectal cancer, colorectal cancer, skin, dermal metastasis.

Introduction

Visceral cancers may develop skin metastasis. Its incidence is reported to vary from less than 1% to 10% and occurs most frequently in older population groups. The primary tumor that most often develops metastasis to skin is breast cancer [1, 2]. The most frequent sites for skin metastasis have been reported in different studies as surgical incisions, abdominal wall or chest wall [3].

Skin metastasis is usually a sign of terminal disease. Invasive procedures for tissue biopsy may not be proper or easy to do, due to poor survival and poor general condition. Fine Needle Aspiration (FNA) cytology is a reliable and noninvasive method for detecting skin metastasis [3,4, 5].

The main sites of metastases in colorectal cancers are liver and lungs. Although colorectal cancers are the second most visceral human cancers causing skin metastasis, only 5% of metastatic skin lesions are from colorectal cancers [1, 6].

Herein we report a young man with a FNA diagnosed metastasis to skin from rectal cancer who had a short survival.

Report of the case

A 33 year old man was referred with a history of sudden onset abdominal pain 4 weeks ago and progressive abdominal protrusion. Abdominopelvic sonography and Computed Tomographic (CT) scan showed severe ascites and a rectal mass. Palliative paracentesis was performed for the patient's symptomatic abdominal ascites. Cytopathologic examination was positive for malignancy. The patient's serum Carcino Embryonic Antigen (CEA) was 1420 ng/ml. Colonoscopic biopsy from the rectal lesion showed signet ring cell adenocarcinoma. The CT scan showed no evidence of metastases in the chest, abdominal and pelvic areas other than ascites. Because of the malignant ascites, the patient was referred for systemic treatment with six cycles of Oxaliplatin based

chemotherapy (FOLFOX4 regimen). The treatment continued without any complication and the ascites partially responded. However, 3 weeks after the last cycle of chemotherapy, the patient returned to the clinic with skin lesions on the upper back, chest and lower neck. Lesions were non-tender, hard, red and elevated plaques with distinct borders and some discrete bullae on them (Fig 1). FNA of skin lesions showed many clusters of highly atypical cells with high Nucleus/Cytoplasm ratio and prominent nucleoli suggestive of metastasis (Fig 2). After skin metastasis, serum CEA level was 1530 ng/ml. He had no evidence of other new visceral metastasis. Unfortunately, the patient could not afford Bevacizumab, and chemotherapy with Irinotecan based regimen (FOLFIRI) was started. After the second cycle of chemotherapy, skin lesions partially responded, but a few weeks later they showed regrowth and after the fourth FOLFIRI cycle, the patient expired.

Discussion

Among all skin cancers, 2% are metastatic skin tumors and the most common primary site for these is breast cancer [7]. Skin metastasis from rectal cancer is rare and occurs in less

Table 1: review of some reports on skin metastasis in colorectal cancer

study	Age (latency months)	Sex	stage	location	Survival after skin metastasis
David Sarid [1]	60 (16 months)	F	T3N2M0	left abdominal wall	60 (months)
Georgios[2]	69 (36 month)	NA	NA	on the chin	8 (months)
Horiuchi [6]	53 (36)	M	NA	scalp	NA
Wright [9]	81 (0)	F	T3N1M1	In the cholecystectomy scar	NA
Wang [10]	63 (6 months)	M	T4N2M0	chest, neck and left upper limb	2 weeks
Stavrianos[11]	78 (3months)	M	Dukes' C	left cheek and oral commisure	11(month)
Kok-Yang Tan [13]	70 (20 months)	M	T3N2M0	left scapula region	NA
Kok-Yang Tan [13]	51 (21 months)	M	T4N2M0	right scapula region	9(months)
De Friend [14]	49 (7 months)	F	Dukes' C	perianal skin	NA
Rajan [15]	36 (24)	M	Stage IV	Lower extremeties	3 mo (without treatment after skin metastasis)
Gamal Abdul Hamid[16]	70 (86 months)	NA	T3N0M0	on the face, scalp, and upper trunk	NA
Civitelli [17]	73 (few days)	F	Stage III	abdominal wall, chest, and back	6 mo (no treatment)
Kurihara [18]	66 (12 mo)	M	Stage III	right thigh	7 mo
Nasti [19]	76 (0)	F	T3N1	face	15 mo
Mean	63.9 (20.5 months)	-	-	-	13.2 (months)

than 4% of cases[8]. Clinical appearance of cutaneous metastasis has different features such as nodules, bullae, ulcerations, fibrotic and cellulitis-like lesions [9, 10]. The most reported lesion are asymptomatic small nodules (1-2 cm); however, our patient had a large skin lesion over the neck, upper chest and upper back [1]. Due to this rare presentation, biopsy confirmation of

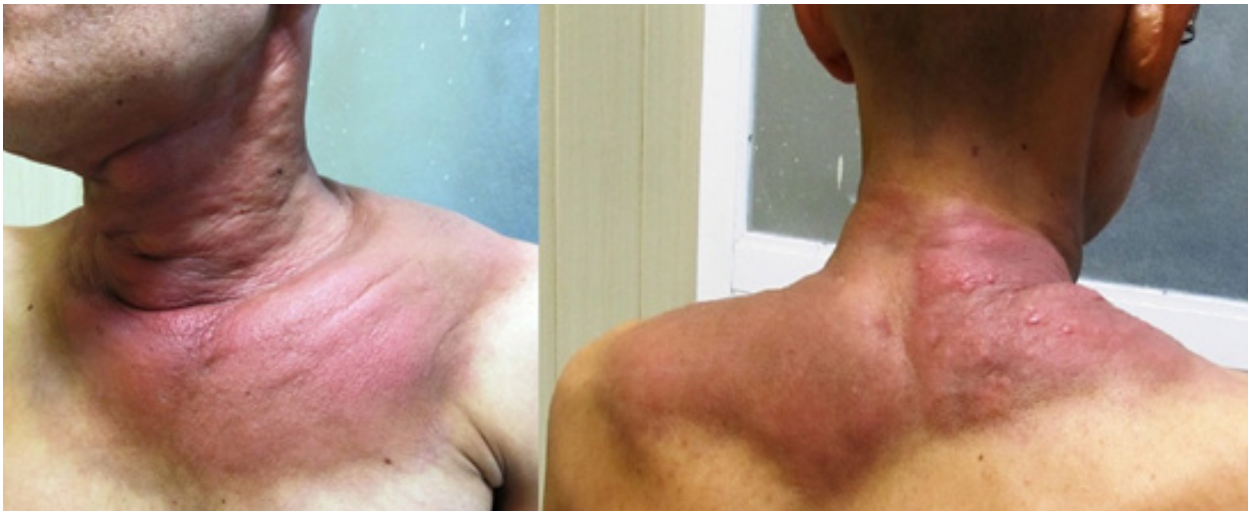

Figure 1: patient before treatment chemotherapy

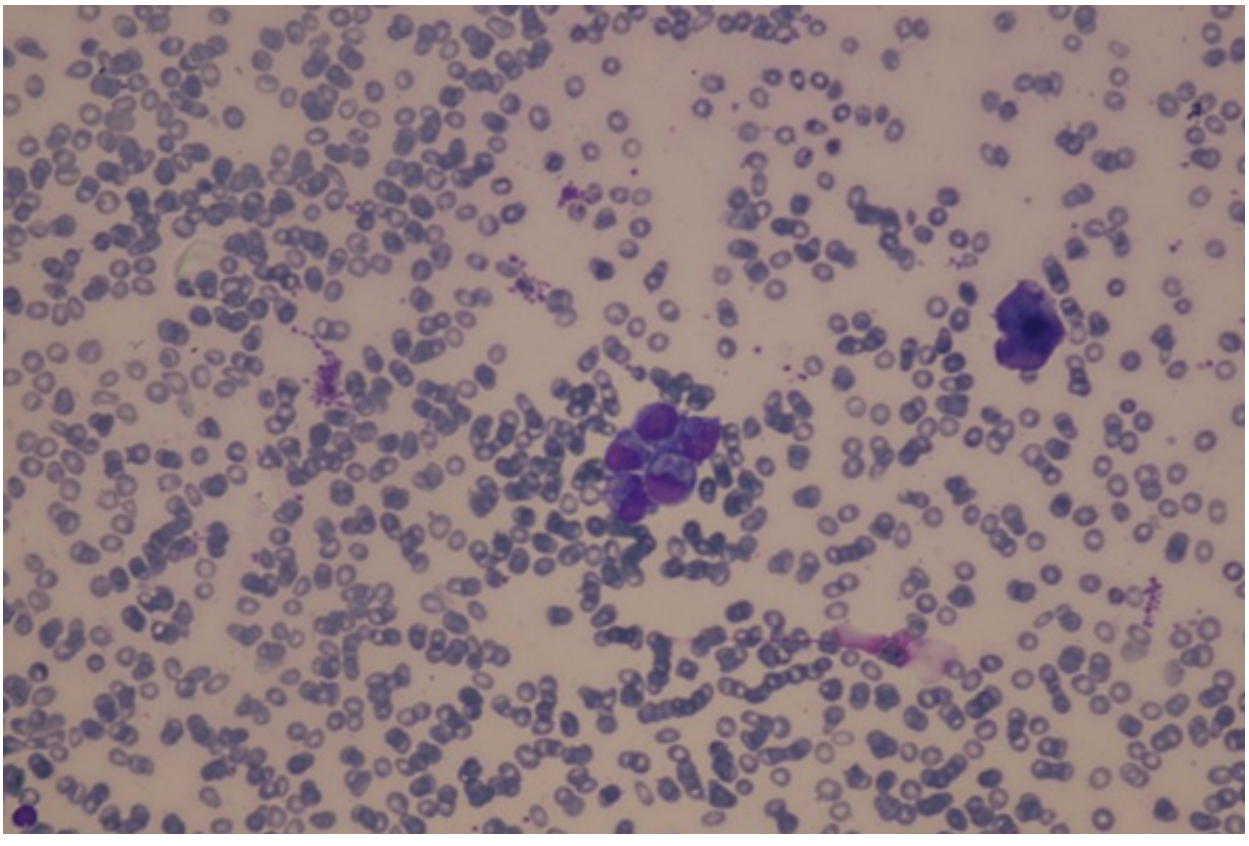

Figure 2: Smears from subcutaneous mass show small groups of signet ring cell in bloody background. (Wright stainX400)

skin metastasis is necessary [11, 12]. Considering the short estimated survival and probable poor general condition, a surgical biopsy may not be logical for these patients. FNA cytology is an accurate method for diagnosis of skin metastasis in a patient with a known malignancy. Geramizadeh and colleagues reported 25 cases of skin metastasis with no false positive or false negative for FNA results [3].

Skin metastases are reported at different sites through the body such as abdomen, extremities, head and neck, genitalia and scars from surgery [8]. Among them, surgery scars and abdominal skin are more frequently seen [10,11]. Cervical and thoracic skin metastases are less frequent than those on abdominal skin [10]. Skin metastasis in colon cancer may be spread via lymphatic, hematogenous, coelomic or by direct spread [9, 11, 13]. Kok-Yang Tan and colleagues reported three cases of metastatic skin tumor from the colon. Two patients developed distant skin metastasis to the back (thoracic area). They believed that the remote metastasis that occurred in these two patients was hematogenous. The third patient was a woman with recurrence in the skin of the genitalia region, probably from direct tumor extension [13]. Tumor spread in the operative field during surgery is a well-known phenomenon in colorectal cancer [14].

Skin involvement may occur at the initial presentation or as a secondary metastatic site [9, 10]. Wang Jian and colleagues reported a case of colon cancer with metastasis to the chest or upper limb as the initial presentation [10]. Our patient had no evidence of skin metastasis at first.

Skin metastasis in colon cancer may be an indicator of disseminated disease and is an ominous sign. Our patient had severe ascites before developing skin metastasis. Early metastatic skin tumor detection may alter prognosis [1, 9, 12]. Surgical tumor removal does not seem to have survival benefit, except in symptomatic lesions [13]. Table 1 summarizes the results of similar cases that have been reported in the literature. As we see, in most of the cases the overall survival rates were low after skin metastases. However, David Sarid reported a 60 year old woman with a locally advanced colon cancer who developed skin metastasis to the abdominal wall. She lived 60 months after the skin metastasis [1].

Conclusion

Although rare, skin metastasis in colorectal cancer is a devastating sign. FNA cytology seems to be a proper and accurate diagnostic method. Follow up of these patients should include a careful dermatologic examination, although it is not clear whether or not early detection and treatment can change the outcome.

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