

## Abdominal wall metastasis in scar after open resection of an adrenocortical carcinoma

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### Abstract

A 42-year-old man patient presented with progressively increasing, occasionally painful lump in the left upper and central abdomen. Investigations revealed well-defined capsulated left adrenocortical carcinoma. Tumor was resected successfully along with left kidney. Tumor recurred in the abdominal surgical scar 1.5 years after surgery. We are reporting this case because of rarity of metastatic recurrence of an adrenocortical carcinoma in the abdominal surgical scar 1.5 years after resection of primary tumor.

### Introduction

Metastasis of a tumor in the abdominal wall after open surgery is rare and has been reported mostly after resection of colorectal carcinoma and hepatocellular carcinoma. Implant in the abdominal wall may occur as result of seeding from percutaneous biopsy of an intra abdominal malignancy or by tracking of tumor cells via an indwelling drain for malignant biliary obstruction. In recent years, an increasing number of abdominal wall recurrences of malignant colorectal, liver, gall bladder, ovarian and pancreatic tumors have been documented.

### Case Report

In March 2009, a 42-year-old man patient presented with progressively increasing, occasionally painful lump in the left upper and central abdomen for past 2 months. On physical examination there was a hard, partially mobile, mildly tender 10×10 cm lump with irregular surface occupying the left lumbar, left central abdomen and part of left hypochondrium. Contrast-enhanced computed tomography (CECT) abdomen revealed well-defined capsulated heterogeneous soft tissue density lesion with evidence of calcification and patchy con-

trast enhancement, superior to left kidney (size 164×111×174 mm); no metastasis or lymphadenopathy was there. Computed tomography (CT) - guided true cut biopsy revealed adrenocortical carcinoma. Biochemical examination was consistent with nonfunctioning tumor. In April 2009 the tumor was resected encapsulated along with left kidney (*i.e.* no rupture of capsule or spillage of tumor occurred). Histological analysis of specimen showed adrenocortical carcinoma with focal areas of capsular invasion and left kidney was unremarkable. No adjuvant chemotherapy was given. The patient was discharged from hospital after eight days. Patient was followed up in out patient's department for 6 months but then patient stopped coming to outpatient department for follow up.

In October 2010, patient presented with swelling in anterior abdominal wall rapidly increasing for last 2 months (Figure 1). Patient was not having any symptoms apart from mild pain locally. On physical examination, there was a single hard, well defined, immobile, mildly tender 80×70 mm lump with irregular and bleeding surface occupying umbilical region. CECT thorax and abdomen was done which revealed a soft tissue mass lesion in the anterior abdominal wall at umbilical level involving the anterior abdominal wall muscle (B/L rectus abdominis), subcutaneous tissues and overlying skin with small calcific foci within, measuring 64.7×66×54 mm (Figure 2). There was no extension beyond the muscle. Cytological features were consistent with metastatic adrenocortical carcinoma (Figure 3). There was no evidence of metastasis elsewhere.

Patient was diagnosed as metastatic adrenocortical carcinoma so resection and abdominal wall reconstruction was planned but patient refused for any kind of treatment and opted for some indigenous medicines for his disease. After 2 months, he was brought to casualty department in state of shock with profuse bleeding from tumor site. Despite extensive resuscitation, patient couldn't be salvaged.

### Discussion

Adrenocortical carcinoma (ACC) is a rare and aggressive endocrine malignancy (incidence 1-2 per 1 million populations) with a heterogeneous presentation and a variable but generally poor prognosis.<sup>1</sup> Women are more affected than men (ratio 1.5) and the age distribution is reported as bimodal with a first peak in childhood and a second higher peak in the fourth and fifth decade.<sup>2</sup> Men develop nonfunctioning malignant adrenocortical tumor more often than women. In stages I - III open surgery by an

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Figure 1. Recurrence in abdominal wall scar.



Figure 2. Contrast-enhanced computed tomography abdomen showing recurrence in abdominal wall scar.

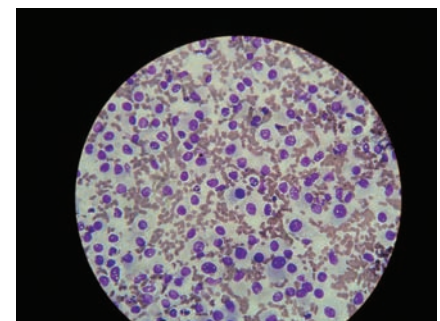


Figure 3. Histology of metastatic adrenocortical carcinoma.

expert surgeon aiming at an R0 resection is the treatment of choice.<sup>2</sup> Local recurrence is frequent, particularly after violation of tumor capsule. Surgery also plays a role in local tumor recurrence and metastatic disease.

Abdominal wall metastases after open resection of colorectal cancer occurs in 0.6% - 2.5% of all patients.<sup>3-5</sup> A number of variables affect the incidence of recurrences, including stage of tumor and extent of manipulation during operation. There is single reported case by van Grevenstein *et al.* describing abdominal wall metastasis 4.5 years after open resection of an adrenocortical carcinoma (during removal of tumor the capsule ruptured and there was some spill).<sup>6</sup> There are two reported cases of recurrences after laparoscopic resection of an adrenocortical carcinoma. Hamoir *et al.* reported a case of massive peritoneal recurrence six month after laparoscopic resection of a ruptured adrenocortical carcinoma with a diameter of 12 cm<sup>7</sup> The other case was described by Foxius *et al.* and had a peritoneal recurrence six month after laparoscopic adrenalectomy for a supposed Conn's adenoma, 2 cm in diameter.<sup>8</sup>

It is of utmost importance to leave the tumor capsule intact, thereby avoiding tumor spillage and reducing risk for local recurrence.<sup>1</sup> CO<sub>2</sub> insufflation of the abdomen during laparoscopy may cause spread of the tumor cells with

subsequent peritoneal carcinomatosis. In experimental studies, gasless laparoscopy has been shown to be associated with fewer tumor deposits than laparoscopy with CO<sub>2</sub> insufflations.<sup>9</sup> At present, there is a consensus that open adrenalectomy remains the operation of choice for ACC with invasion of adjacent organs, enlarged regional lymph nodes, or tumor larger than 10-12 cm in size.<sup>2</sup>

Our patient had a non-functioning adrenocortical carcinoma. The surgery was uneventful *i.e.* no rupture and spillage of tumor cells. There might be possibility of spillage of some tumor cells during CT – guided true cut biopsy, which caused recurrence.

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