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### Isolated peritoneal metastasis creating confusion in carcinoma cervix – A case report and review of literature

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#### ABSTRACT

Carcinoma cervix commonly spreads locally and through lymphatic channels. Peritoneal metastasis (PM) is an extremely rare entity. We present a case of a 35-years-old female with carcinoma cervix, who presented with bleeding per vaginum along with pelvic pain and posed diagnostic confusion on contrast enhanced computed tomography (CECT). To the best of our knowledge, till date only two similar cases of carcinoma cervix with PM have been reported in the literature.

**Keywords:** Carcinoma cervix; Peritoneal metastasis

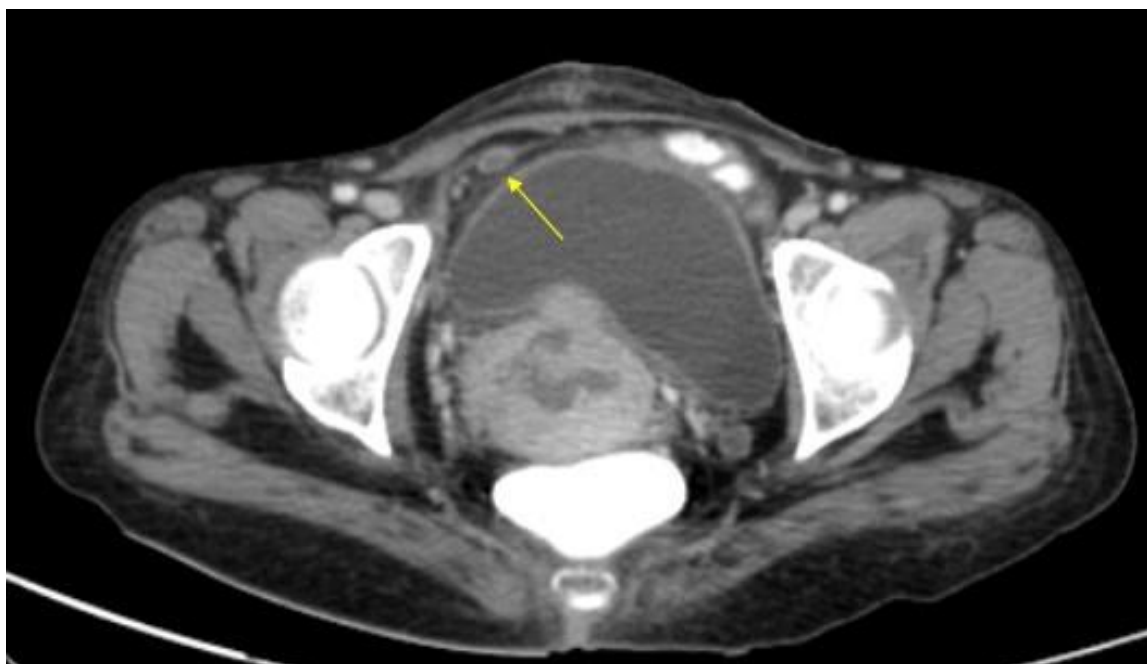
#### INTRODUCTION

Carcinoma cervix is most common gynaecological malignancy in India. [1] Usually the tumour spreads locally as well as through lymphatics to the pelvic lymph nodes. Hematogenous spread is relatively uncommon with liver being the commonest site. PM associated with primary squamous cell carcinoma cervix is extremely rare with only two cases reported till date. [2, 3] We report a rare case of squamous cell carcinoma cervix with PM with review of literature.

#### CASE HISTORY

A 35 years old premenopausal female presented to our outpatient department (OPD) with chief complains of on and off vaginal bleeding and

pelvic pain for 2 months. There was no significant past history and obstetrical history. The general examination of the patient was unremarkable. On per vaginum examination, there was an ulcero-proliferative growth which was involving the cervical lip and vaginal fornices. Per rectum examination revealed right side parametrial involvement not extending up to the lateral pelvic wall, while rectal mucosa was free. Inguinal lymph nodes were not palpable. Biopsy was taken from the cervical growth and sent for histopathological examination (HPE). CECT thorax, abdomen and pelvis revealed a heterogeneously enhancing mass lesion of size 6.3cm x 4.4cm x 4.3cm in pelvis which was involving the lower part of uterus, cervix and upper 1/3 of vagina along with a single peripheral enhancing lesion with central hypodense area in the peritoneum. (Fig 1)



**Fig 1**– CECT abdomen showing heterogeneously enhancing mass in cervix and lower uterine segment.

Arrow is pointing the isolated peritoneal metastasis.

On the basis of clinical features and evidence of peritoneal deposit on CECT, differential diagnoses of carcinoma cervix, carcinoma endometrium,

carcinoma ovary, carcinoma pancreas, colorectal carcinoma, carcinoma appendix, gastric carcinoma and carcinoma breast were made. [4-10] [Table 1]

**Table 1** – Differential diagnosis of peritoneal metastasis

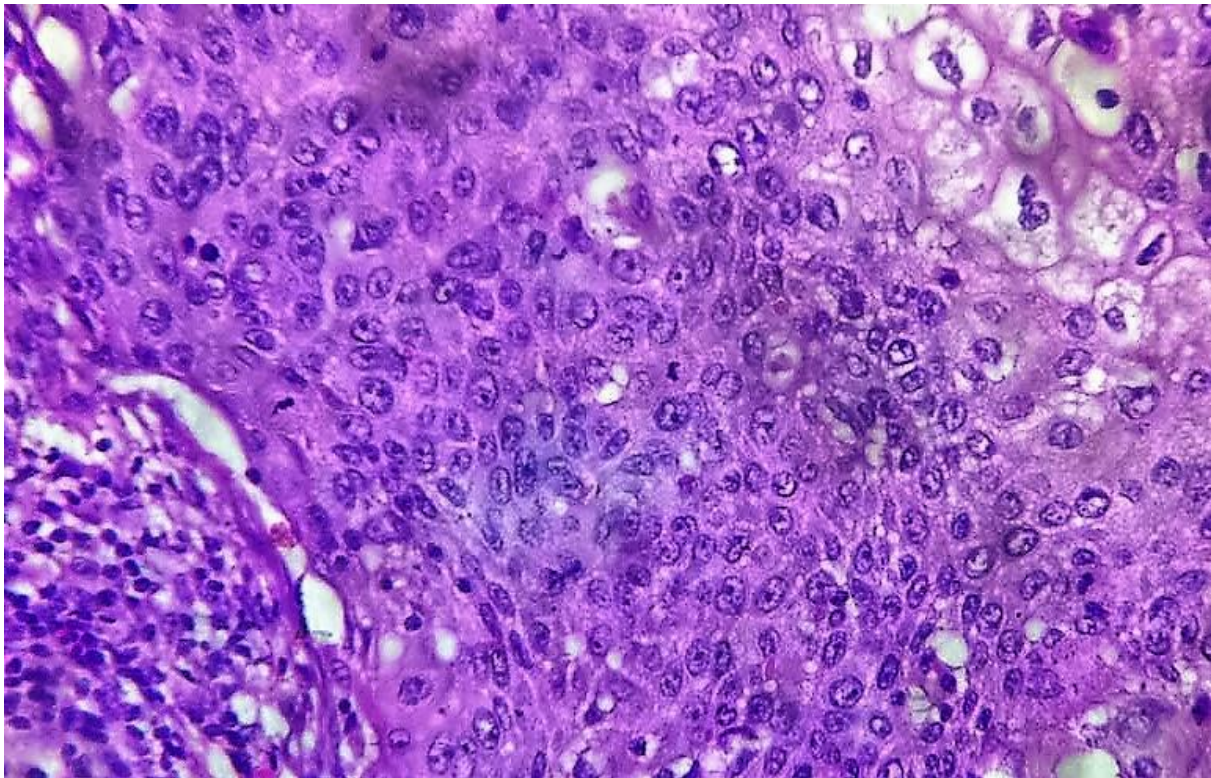
Malignancy	Clinical features (C/F)	Histopathology (HPE)	Radiological features	Incidence of peritoneal metastasis	Comment
Ovarian cancer (OC)	Abdominal bloating, early satiety, weight loss, discomfort in the pelvis area	Serous adenocarcinoma (65%), germ cell (15%), sex cord-stromal (10%), metastases (5%).	USG, CECT and other imaging may show bulk of disease in adnexal region.	Peritoneum is the most common site of metastases and is involved in about 70% of cases at stage III and IV disease. [4]	C/F, HPE, normal level of CA125 and radiology except for peritoneal metastasis ruled out OC.
Colorectal malignancy (CM)	Per rectal bleeding, altered bowel habits, abdominal pain.	90% are adenocarcinomas. Other rare types of colorectal carcinomas include neuroendocrine, squamous cell, adenosquamous, spindle cell and undifferentiated carcinomas.	CECT and MRI may show soft tissue density mass that narrow the bowel lumen. Occasionally ulcer is also visible	Peritoneal implants are present in 10% of patients with colorectal cancer [5]	C/F, HPE, imaging except for peritoneal metastasis and normal serum CEA level ruled out CM

Pancreatic carcinoma (PC)	pain (most common), Courvoisier's gallbladder: painless jaundice and enlarged gallbladder Trousseau's syndrome: migratory thrombophlebitis	<b>Exocrine:</b> ~99% of all primary pancreatic neoplasms - pancreatic ductal adenocarcinoma ~90-95% <b>Endocrine and mesenchymal tumours</b>	USG, CECT, MRI may reveal mass in pancreas and presence of simultaneous dilatation of the common bile and pancreatic ducts ( double duct sign)	In a population based study 9% out of 2924 patients presented with synchronous peritoneal carcinomatosis. [6]	C/F, HPE, normal CA19.9 level and imaging except for peritoneal metastasis ruled out PC
Gastric cancer (GC)	Dyspepsia, anorexia, weight loss	Adenocarcinoma is by far the most common histology representing over 95%	Endoscopy, CECT may show lesion in stomach like. polypoid mass focal wall thickening ulceration infiltrating carcinoma	PM is present in 5% -30%. [7]	GC was ruled out by C/F, HPE and radiological features
Endometrial carcinoma (EC)	postmenopausal bleeding is most common clinical feature	Endometrioid carcinoma of the endometrium: commonest histological type: ~85%, papillary serous carcinoma of the endometrium: 5-10% Clear cell carcinoma of the endometrium: 1-5.5% , adenosquamous carcinoma of the endometrium: ~2% adenocarcinoma of the endometrium with squamous differentiation: 0.25-0.50%	Transvaginal USG, CECT, MRI may reveal thickening and mass in endometrial cavity.	PM is one of the most typical sites of recurrent endometrial carcinoma. About 28% of relapses occur in the peritoneum. [8]	C/F and radiological feature was creating confusion. Normal CA 125 level and HPE ruled out EC
Carcinoma appendix	Acute abdominal pain, increase in abdomen size/girth, bloating, pelvic discomfort, bowel obstruction	Appendiceal adenoma, appendiceal adenocarcinoma, appendiceal lymphoma, carcinoid tumour	CECT is investigation of choice shows appendicular mass and may suggest a more specific diagnosis	The incidence of pseudomyxoma peritonei is approximately 2 in 10,000 laparotomies. [9]	C/F, HPE, radiological features ruled out carcinoma appendix in index case
Breast cancer (BC)	Breast lump, nipple discharge, nipple retraction, peau d'orange changes.	Ductal carcinoma in situ (DCIS): ~10% invasive ductal carcinoma-invasive ductal carcinoma not otherwise specified	Mammography, CECT may show mass in breast and axillary lymphadenopathy	Exact incidence is not known. PM occur in 4-18% of patients with	C/F, HPE, radiological features were not suggestive

		(NOS): ~65% lobular carcinoma in situ (LCIS) invasive lobular carcinoma: ~10%		disseminated breast cancer. [10]	of BC in this case
Carcinoma cervix	Bleeding per vaginum (PV), PV discharge	Squamous cell carcinoma of the cervix - (80-90%) adenocarcinoma of the cervix - (5-20%), small cell carcinoma of the cervix: rare (0.5-6%)	CECT may show enhancing mass in cervix, lower part of uterus, vagina with extension to adjacent organ	Exact incidence is not known.	C/F, HPE, CECT, normal tumour markers (CEA, CA125, CA19.9) suggested diagnosis of carcinoma cervix

Age, clinical features and local examination findings favoured carcinoma cervix but isolated PM and its rare association with carcinoma cervix doubted the definite diagnosis. Final

histopathological diagnosis was moderately differentiated squamous cell carcinoma (Fig 2) and finally an opinion of carcinoma cervix with isolated PM (FIGO stage IV B) was made.



**Fig 2 - (40X)** Showing moderately differentiating squamous cell carcinoma of cervix

Patient was discussed in multidisciplinary clinic and has been planned for palliative chemotherapy

with single agent cisplatin as patient denied any surgical procedure.



## DISCUSSION

In India, cervical cancer accounts for about 22.9% of all malignancies as per GLOBOCON 2012. [1] Metastasis of cervical cancer mainly occurs by local extension and lymphatic dissemination. Distant metastases occur through hematogenous route, the common sites being liver, lung and bone. [11] It is extremely uncommon for cervical cancer to be associated with PM. PM is commonly seen in primaries like ovarian, gastric, colorectal, endometrial, appendiceal, pancreatic,

gall bladder and breast malignancies. [12, 13] There is no definitive data in literature about the association of squamous cell carcinoma cervix with PM. According to Fulchur et al peritoneal metastases were present in 5%–27% of cervical carcinoma cases in autopsy series. [14]

Malignant involvement of the peritoneal lining most commonly occurs through intraperitoneal seeding or by direct invasion. [12] Only 2 cases of squamous cervical cancer with PM have been reported so far in the literature. [Table 2]

**Table 2** - Reported cases of PM in squamous cell carcinoma cervix.

	Local FIGO stage at presentation	Treatment	Survival
Tseng et al [2]	IVA	CCRT (Concurrent chemoradiotherapy) and excision of PM	Disease free survival - 50 months
Bo HY et al [3]	IB1	6 cycles of chemotherapy with Paclitaxel + Carboplatin followed by Extended pelvis radiotherapy and brachytherapy	Not available
Index case	IIB	On single agent chemotherapy with cisplatin	Will be followed up for survival

Peritoneal metastasis is considered as a poor prognostic marker. [15] Table 3 shows incidence of

PM in different malignancies along with the patients' survival.

**Table 3** - Incidence of (peritoneal metastasis) PM and survival of different malignancies

Ovarian cancer	Peritoneum is the most common site of metastases and is involved in about 70% of cases at stage III and IV disease. [4]	Median survival 12 to 23 months. [16]
Colorectal malignancy	Peritoneal implants are present in 10% of patients with colorectal cancer [5]	The mean survival is about 6.9 months. [17]
Pancreatic carcinoma	In a population based study 9% out of 2924 patients presented with synchronous peritoneal carcinomatosis. [6]	Median survival is less than 6 months. [18]
Gastric cancer	PM is present in 5%-30%. [7]	The median survival is 5 months with virtually no long-term survivors. [17]
Endometrial carcinoma	PM is one of the most typical sites of recurrent endometrial carcinoma. About 28% of relapses occur in the peritoneum. [8]	Positive peritoneal cytology had a significant adverse effect on survival, decreasing it at 5 years from 73 to 13%, if the disease had spread to the adnexa, lymph nodes, or peritoneum. [19]
Carcinoma appendix	The incidence of pseudomyxoma peritonei is approximately 2 in 10,000 laparotomies. [9]	% 5-year survival is approximately 85% [20]
Breast cancer	Exact incidence is not known. PM occur in 4-18% of patients with disseminated breast cancer. [10]	Median survival is less than 28 months. [21]

Traditional treatment modalities of PM include removal of the omentum, systemic and/or palliative chemotherapy, and palliative surgery. Cytoreductive surgery (CRS), hyperthermic intraperitoneal chemotherapy (HIPEC) alone or in combination with systemic chemotherapy are novel treatment modalities. [22] Tseng et al reported a disease free survival of 50 months in a patient of squamous cell carcinoma, cervix after excision of PM along with concurrent chemoradiotherapy. [2]

be treated with surgery, intraperitoneal chemotherapy alone or in combination with systemic chemotherapy (for treatment of primary). Due to lack of available literature, it is difficult to predict the survival. Index patient denied any surgical procedure, so patient has been planned for systemic chemotherapy with single agent cisplatin. As the patient is tolerating chemotherapy well, she will be curiously followed up to know course and response of the disease.

## CONCLUSION

PM in primary carcinoma cervix is extremely rare phenomenon and carries poor prognosis. It can

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