

# Metastatic deposits of Squamous cell carcinoma cervix in the small bowel- A surprise finding in a case of acute abdomen.

## Abstract

Small bowel malignancies are extremely rare and most of them are metastasis. Few cases of squamous cell carcinoma cervix metastasis to the small bowel have been reported in the past. We report a case of a 60 year old woman presenting as acute abdomen. Specimen of jejunum and ileum sent for histology and showed metastatic deposits of squamous cell carcinoma of the female genital tract origin, diagnosed on routine microscopy and immunohistochemistry. Lack of clinical suspicion of malignancy, past history of total abdominal hysterectomy without histopathology makes this case interesting and intriguing.

## Introduction

Small bowel lesions are uncommonly encountered in surgical pathology. Malignancies of the small bowel account for only 0.4% of all cancers.<sup>(1)</sup> Primary malignancies of the small intestine comprise only 0.1–1.3% of all gastrointestinal tract neoplasms and are quite rare.<sup>(2,3)</sup> Metastasis to the small intestine is, however, much more frequent than any other site in the gastrointestinal tract.<sup>(4)</sup> Malignant melanoma is known to be the most common extra-gastrointestinal tumour to metastasize to the small bowel.<sup>(5)</sup> Intestinal metastases occurring by intraperitoneal seeding are very common in end-stage adenocarcinomas of the pancreas, colon or stomach. Squamous cell carcinoma of the cervix rarely metastasises to the small bowel.

Carcinoma of the cervix has been established as the second most common malignancy among females worldwide<sup>(6,7)</sup>. It is a serious health problem in the developing countries,<sup>(3,8)</sup> as no effective screening procedures are currently available.<sup>(4,9)</sup> Worldwide, with the improvement of cervical cancer screening, the incidence and mortality of cervical cancer has significantly decreased.<sup>(10)</sup> Localized disease may be cured after definitive therapy, and earlier studies have indicated that surgery or radiation therapy provides relatively good outcome.<sup>(11)</sup> Females presenting with regional or distant metastatic disease have a higher mortality.<sup>(12)</sup> Carcinoma cervix commonly spreads by local extension, lymph nodal and pulmonary metastasis. Metastasis to the small intestine is extremely rare. Metastasis to the small bowel from primary tumours in other sites may result in missed or incorrect diagnosis,

as the metastasis might very rarely present as acute abdomen.<sup>(13,14)</sup> This case report presents and discusses a case of symptomatic small intestinal metastasis of carcinoma cervix.

We report a case of 61 year old female who presented with symptoms of acute abdomen to a Tertiary referral centre.

#### Case report-

A 60 year old female patient came to the hospital with a history of distended abdomen and pain abdomen for 3 days. Post admission, the patient developed one episode of vomiting and increasing abdominal distension and history revealed constipation for 3 days. She was then referred to surgical emergency. She was found to be in shock with very low volume, thready pulse and blood pressure was not recordable. A provisional diagnosis of acute abdomen with possible hollow viscus perforation was made and case was posted for an emergency laprotomy. She was given intravenous fluid resuscitation prior to the surgery. Past history was insignificant except for history of abdominal hysterectomy 4 years back. X-Ray abdomen showed pneumoperitoneum, Ultrasound abdomen reported dilated small bowel loops, suggestive of small bowel obstruction and CT Abdomen taken at admission, showed, pneumoperitoneum, small bowel obstruction with transit point at the distal ileum along with absent uterus and vault thickening.

On Inspection, abdomen was distended with umbilicus central, midline, inverted. A lower midline surgical scar was present. No sinuses, fistula, discoloration of skin, dilated veins or signs of inflammation were noted. No visible peristalsis, lumps, cough impulse was seen. Hernial sites were free and external genitalia were normal. On palpation, there was no local rise of temperature. Diffuse abdominal tenderness and guarding was present. There were no other palpable lumps and there was no organomegaly. Percussion of abdomen showed a resonance and auscultation showed absent bowel sounds. Per-rectal examination was empty. Emergency exploratory laprotomy under general anesthesia was taken up after improvement in the blood pressure. Intra operatively, dilated small bowel loops with multiple perforations over jejunum and ileum with faecal contamination was noted. Multiple small nodules largest measuring 2×1.5cm over small bowel and mesentery and anterior abdominal wall and retroperitoneum were seen. Multiple small bowel adhesions, inter-bowel adhesions and nodules over anterior abdominal wall were noted. Surgery with adhesiolysis, resection of perforated jejunum and ileum and end to

end anastomosis was done. Patient succumbed on the first postoperative day due to postoperative sepsis and shock secondary to faecal peritonitis.

Specimen received in the pathology department was the entire jejunum and ileum along with resected omental tissue. [Image 1]. Gross examination showed a discoloured bowel with multiple perforations, serosal nodules and strictures. Three lymph nodes were identified in the mesentery. Cut section of the bowel showed solid grey-tan nodules in the bowel wall and loss of rugosity and balding of the mucosa. [Image 1]. Microscopy of these mucosal nodules showed tumour extending from the sub mucosa up to the serosa. At foci tumour was seen invading into the mucosa. [Image 2] Tumour was composed of large round to polyhedral, pleomorphic cells with abundant eosinophilic cytoplasm and vesicular nucleus. . Malignant squamoid cells forming irregular nests invading the stroma was also seen. Individual cells showed abundant eosinophilic keratinized cytoplasm with intercellular bridges.[Image-3]. A tumour mitotic activity of 2-3 mitosis per high power field was noted .Tumour invasion into the serosal fat and mesenteric lymph nodal metastasis were also seen. [Image-4]. Possibilities considered on haematoxylin and eosin were secondary deposits of squamous cell carcinoma and primary malignant tumor of neuroendocrine origin.. Post hysterectomy status and tumour morphology prompted us to think of a squamous malignancy of female genital tract origin. We prepared an Immuno Histochemistry (IHC) panel in order confirm the differential diagnosis. Neuroendocrine malignancy which also quite common in this age group and location was ruled out as IHC for chromogranin was negative. CK19 was positive, suggesting squamous cell carcinoma. CK7 was Positive and CK20 was negative limiting the diagnosis of the squamous cell carcinoma to female genital tract, uterine cervix origin. P63 was positive confirming this possibility [ Image-5]. IHC confirmed the diagnosis of small bowel secondaries of squamous cell carcinoma cervix. We contacted the patients husband on phone to find out any past history of uterine cervical malignancy. He informed us that an abdominal hysterectomy was performed 4 years back for bleeding per vaginum but no histopathological examination was performed.

Therefore, Considering the clinical presentation, past history of abdominal hysterectomy without histological review , bulky vault & thickening of bowel loops on CT, presence of multiple islands of squamoid cells with intercellular bridges and individual cell keratinization on microscopy along with the IHC panel which was positive for squamous

cell carcinoma a final diagnosis of Metastatic deposits of squamous cell carcinoma of female genital tract , of uterine cervical origin was reported.

#### Discussion-

This case of is being reported considering the rare clinical presentation of small bowel secondaries as an abdominal emergency, a past history of abdominal hysterectomy for bleeding per vaginum which went unreported and the thickening of bowel loops on CT which was overlooked and a diagnosis of perforation lead to, the emergency laprotomy in an elderly patient for perforated bowel, the diagnosis of metastatic deposits of carcinoma cervix on histopathology, post the death of the patient opens a plethora of questions on how this eventuality could have been prevented.

Small bowel is the largest endocrine organ in the human body and also the predominant component of the abdomen, The incidence of small bowel malignancies is quite low, with a global incidence of less than 1.0 per 100 000 people.<sup>(15)</sup> Malignant tumors of the small bowel are unusual, and account for only 1-5% of all GI tract malignancies.<sup>(16)</sup> Based on histology WHO has classified small bowel neoplasms into Epithelial tumours, Non-epithelial tumours, Malignant lymphomas, Secondary tumours, Polyps. Metastasis from a Gastrointestinal( GIT) source being the most common followed by primary malignancies such as carcinoids and adenocarcinoma. Ileum has least incidence of malignancies while the incidence increases as we move upwards to the duodenum. The most frequent tumours which metastasise to the small intestine include carcinomas of lung, breast, kidneys and colon. Malignant melanomas commonly metastasise to the small intestine. Other cancers which have been known to metastasise to small intestine include testes, ovaries, stomach, adrenals, uterus, cervix and liver. The problem with metastasis to the small bowel is further confounded by the fact that most patients are asymptomatic until late into the disease as distension of the small bowel delays luminal obstruction..

Cervical cancer has been established as the second most common cancer among females worldwide.<sup>(17,5)</sup> Hysterectomies are rampant and performed without adequate pre surgical work up and also lack post operative follow-up. Incidence of carcinoma cervix in India is 19 to 44 per 1,00,000 women and India accounts for nearly 1/3rd of global cervical cancer deaths. Carcinoma of the cervix is one of the commonest malignancies seen in Indian subcontinent accounting for approximately 74,000 deaths per year.<sup>(18)</sup>

Carcinoma of the cervix usually spreads in predictable fashion.<sup>(19)</sup> Early and common metastases are by direct extension to the adjacent structures including the vagina, peritoneum, urinary bladder, ureters, rectum and paracervical tissue.<sup>(20)</sup> Stage 1V disease has distant metastasis usually to lungs, liver and bone marrow. Metastasis to gastrointestinal tract is rare and the small bowel even rarer. Metastasis to small bowel can occur through lymphatic or less commonly hematogenous spread or peritoneal seeding. The recto-sigmoid area may be involved by contiguous local extension.

The most common presenting clinical picture of the metastatic small bowel tumour is that of partial or complete small bowel obstruction, as seen in the present case. Less often, the patient may present with perforation of the bowel, persistent abdominal pain or haemorrhage from the lesion. Diagnosis of intestinal obstruction due to a metastasis should be suspected, where there are symptoms pertaining to a primary malignancy or the patient gives a past history of treatment for a primary malignancy. Histopathology revealed the morphological features of squamous cell carcinoma with islands of malignant squamous cells showing individual cell keratinization. The IHC concludes small bowel secondaries of squamous cell carcinoma of uterine cervix origin. Metastatic tumors of the small intestine involve the wall of the bowel, commonly involve the serosa or the mesentery. Involvement of the submucosa is very rare and was present in our case. According to Farmer and Hawk,<sup>(21)</sup> small bowel metastatic masses are of three types: 1. Spherical mesenteric masses encroaching on or extending into intestine, 2. Intramural masses, often with ulceration 3. Bulky polypoidal masses extending into bowel lumen. Our case had the third type of presentation. Metastasis may present synchronously or in a metachronous manner with after a delayed time interval as seen in this case. Disseminated disease with extensive abdominal metastasis with involvement of the ileum and jejunum confers a poor prognosis and survival. We did a literary review of similar cases with intestinal secondaries of carcinoma cervix. Kanthan<sup>(5)</sup> reported a case of small bowel metastasis of carcinoma cervix presenting as upper gastrointestinal bleed. Misnou reported a known case of carcinoma cervix which presented years later as jejunal metastasis with perforation.<sup>(22)</sup> Mardi reported a case of squamous cell carcinoma cervix presenting as jejunal secondaries during chemotherapy.<sup>(23)</sup> Li also reported proximal jejunal metastasis.<sup>(24)</sup> Mathur reported a solitary metastatic malignant stricture of the ileum causing small bowel obstruction in case of carcinoma cervix.<sup>(25)</sup> Kulkarni reported a case of carcinoma cervix with jejunal metastasis presenting as an abdominal emergency similar to the present case.<sup>(4)</sup> Extra-pelvic spread of SCC of the cervix to the small bowel is

rare with very few cases being reported in literature. Primary squamous cell carcinomas of the small intestine are extremely rare, and only occasional case reports are seen in the literature.<sup>(26)</sup> They may arise in congenital anomalies such as small bowel duplications and Meckel's diverticula. possibility of secondaries should be considered in the differential diagnosis of bowel wall thickening on radiology. Abdominal metastasis should also be considered as a possible differential diagnosis of acute abdomen, particularly in elderly patients. This case exposes the risk of undiagnosed cases of carcinoma cervix in our system and emphasises the need for taking up proper screening programmes for diagnosis and prompt management. Also the importance of histopathological examination of surgical resections is once again reiterated, particularly in hysterectomies which are very commonly performed in our country.

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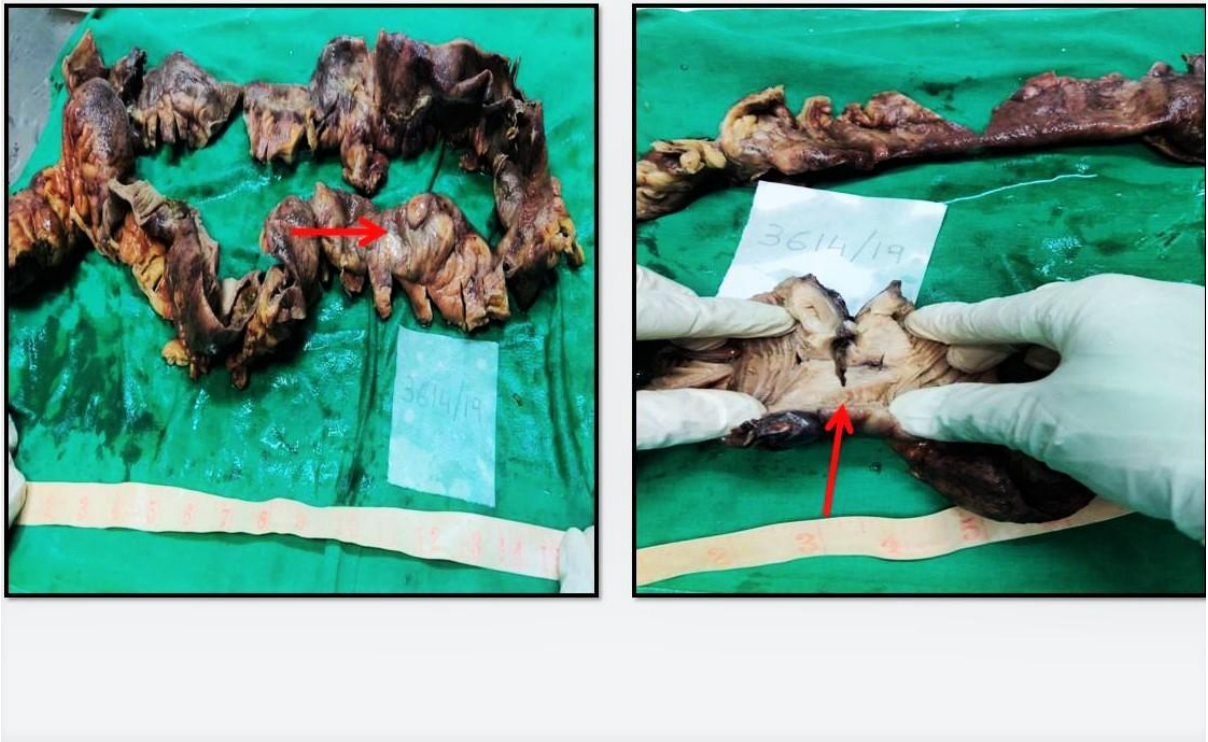
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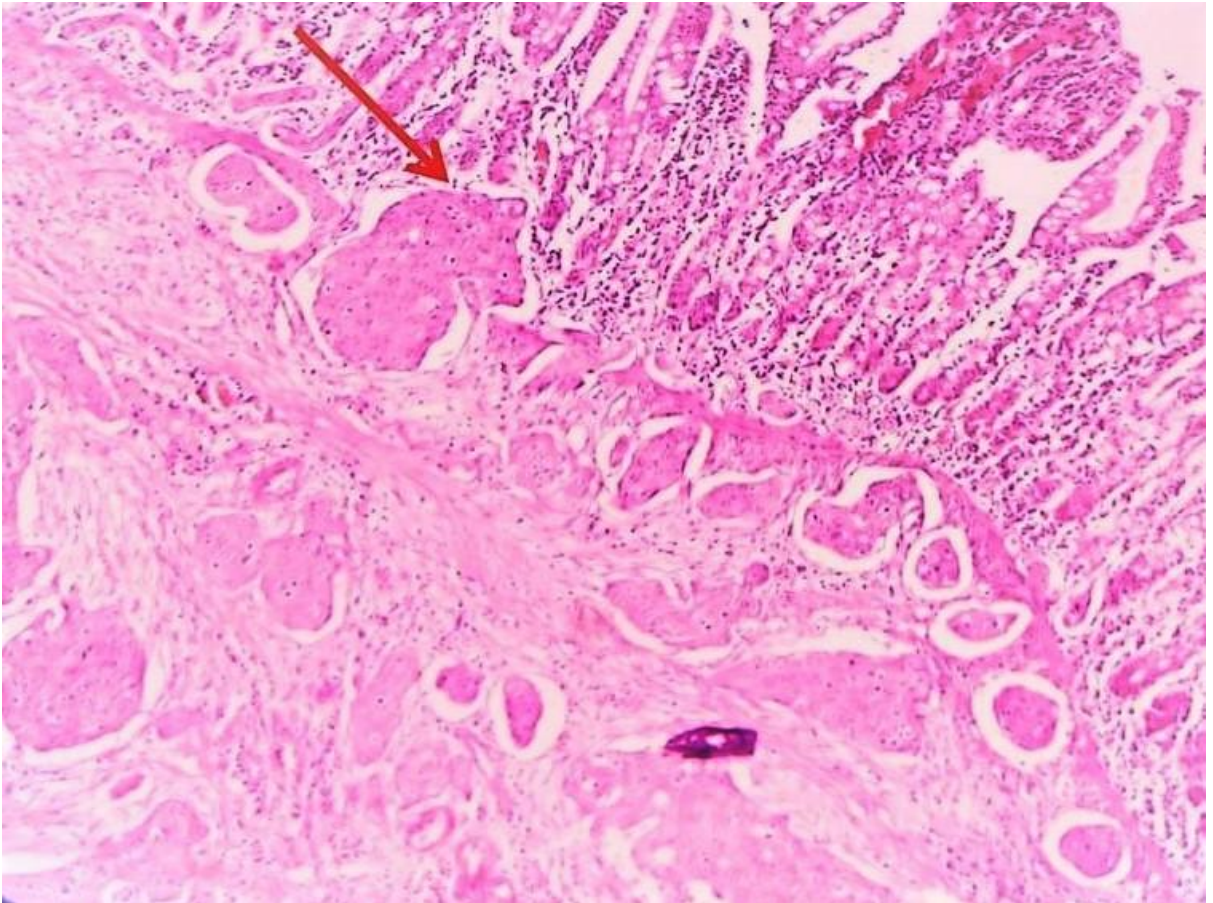
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## LEGENDS FOR IMAGES

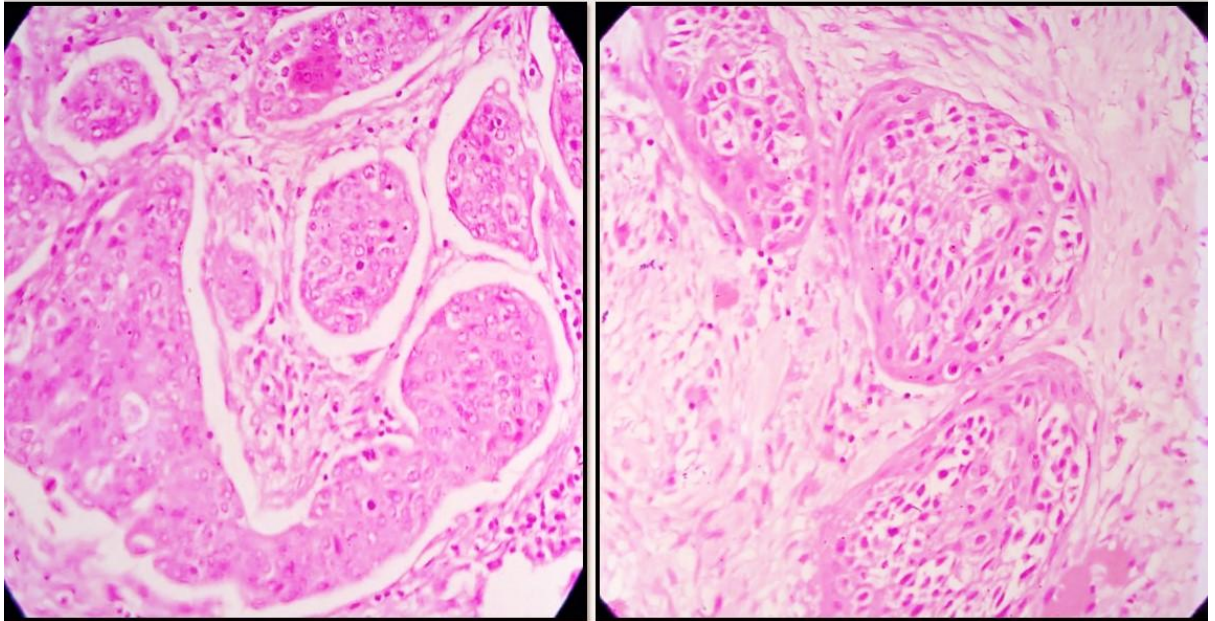




1. Image-1- External examination of the Jejunum and Ileum showing tumor nodules and Cut section of the small bowel specimen.

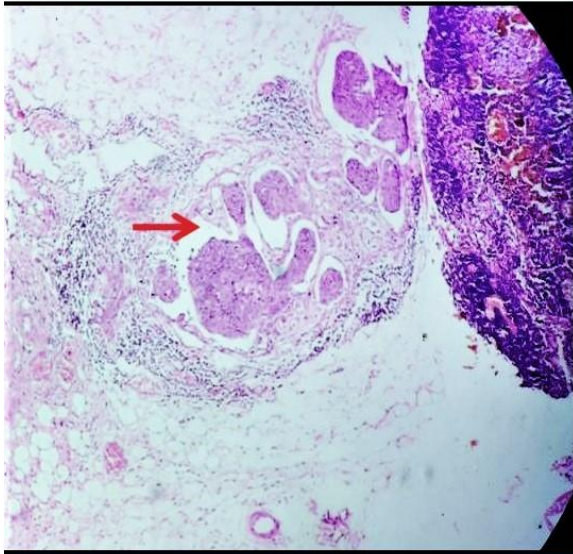


2. Image-2 - Tumor tissue extension upto the submucosa of the bowel. (Hematoxylin-eosin stain, original magnification X100.)

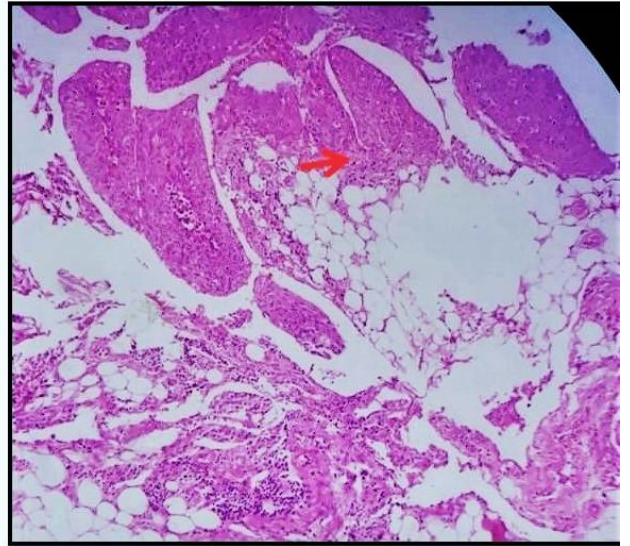


### **Tumor tissue arrangement**

3. Image-3- Histology of the tumor (Hematoxylin-eosin stain, original magnification X 200.)

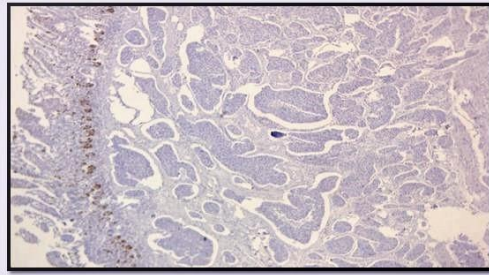


**Lympho-vascular invasion**

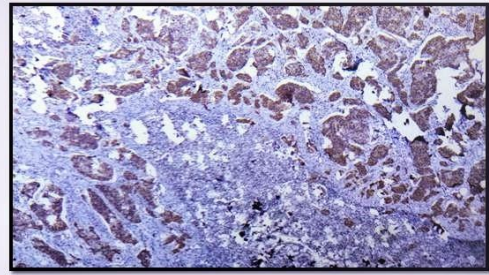


**Tumor infiltration into adjacent fat**

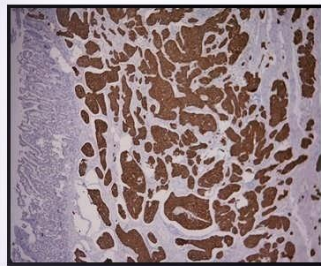
4. Image-4- Tumor invasion - lymphovascular and serosal adipose tissue. (Hematoxylin-eosin stain, original magnification X100.)



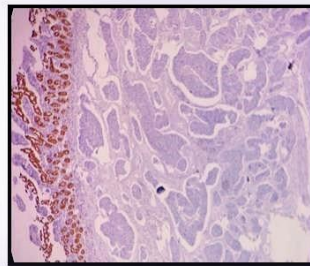
**Chromogranin A : Negative**



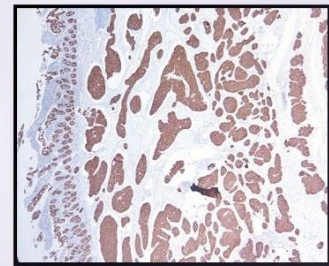
**P 63 : Positive**



**CK 7 : Positive**



**CK 20 : Negative**



**CK 19 : Positive**

5. Image-5- Immuno histochemistry of the tumor indicating metastatic deposit of squamous cell carcinoma.