ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 11, Issue, 11, pp.8156-8159, November, 2019

DOI: https://doi.org/10.24941/ijcr.37126.11.2019

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

CASE REPORT: IMAGING IN A CASE OF MALIGNANT OVARIAN SEROUS CYSTADENOCARCINOMA WITH FEATURES OF PERITONEAL CARCINOMATOSIS

***Pranav Pandoh[1], Akshay Sharma[2], Arun Kumar Negi[3], Dinesh Sood[4], Narvir Singh Chauhan[5] and Arushi Suri[6]**

[1]Senior Resident, Department of Radio diagnosis, Dr RPGMCTanda (H.P.)
[2]Junior Resident, Department of Radio diagnosis, Dr RPGMCTanda (H.P.)
[3]Junior Resident, Department of Pharmacology, Dr RPGMCTanda (H.P.)
[4]Professor and Head, Department of Radio diagnosis, DrRPGMCTanda (H.P.)
[5]Associate Professor, Department of Radio diagnosis, DrRPGMCTanda (H.P.)
[6]Junior Resident, Department of Obstetrics and Gynaecology, GMC Jammu, J&K

ARTICLE INFO

Article History:
Received 24th August, 2019
Received in revised form
28th September, 2019
Accepted 05th October, 2019
Published online 26th November, 2019

Key Words:
Peritoneal,
Carcinomatosis,
Nodules, CT.

ABSTRACT

Ovarian carcinoma is the most common cause of death due to gynecologic malignancy. Peritoneal involvement is present in approximately 70% of patients at the time of initial diagnosis. Common sites of intraperitoneal seeding of ovarian carcinoma include the pelvis, omentum, paracolic gutters, liver capsule, and diaphragm. Soft-tissue thickening, nodularity, and enhancement are all signs of peritoneal involvement. Computed tomography can be used to detect these metastatic lesions, which can be miliary or large and appear as soft-tissue or low-attenuation masses.

Citation: Pranav Pandoh, Akshay Sharma, Arun Kumar Negi, Dinesh Sood, Narvir Singh Chauhan and Arushi Suri. **2019.** "Case report: imaging in a case of malignant ovarian serous cystadenocarcinoma with features of peritoneal carcinomatosis", *International Journal of Current Research*, 11, (11), 8156-8159.

INTRODUCTION

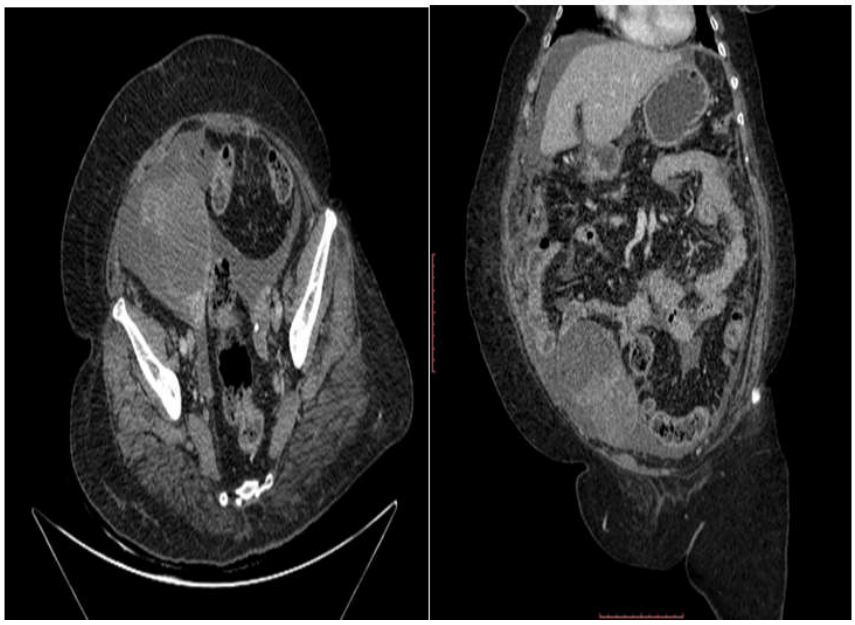
Case: A 40 year old woman came with history of pain in abdomen. Ultrasound abdomen showed solid cystic lesion in right adnexa with echogenic ascites. Contrast CT abdomen of the same patient showed multi-loculated solid cystic lesion arising from right ovary with non-dependent enhancing mural component and thick internal septations (Figs. 1 and 2)There were multiple enhancing soft tissue deposits involving serosal surface of bowel loops, along anterior abdominal wall, reflections of peritoneum and within pouch of douglas(Figs. 3, 4 and 5). Associated stranding and thickening of omentum was noted signifying omental caking (Fig. 6). Moderate abdominal and pelvic ascites along with left sided pleural effusion was noted. Few subcentrimetric lymph nodes were seen in para-aortic, aorto-caval and along bilateral external iliac vessels. The diagnosis of malignant right ovarian mass with peritoneal deposits/peritoneal carcinomatosis was made.

Corresponding author: **Pranav Pandoh,**
Senior Resident, Department of Radio diagnosis, Dr RPGMCTanda (H.P.).

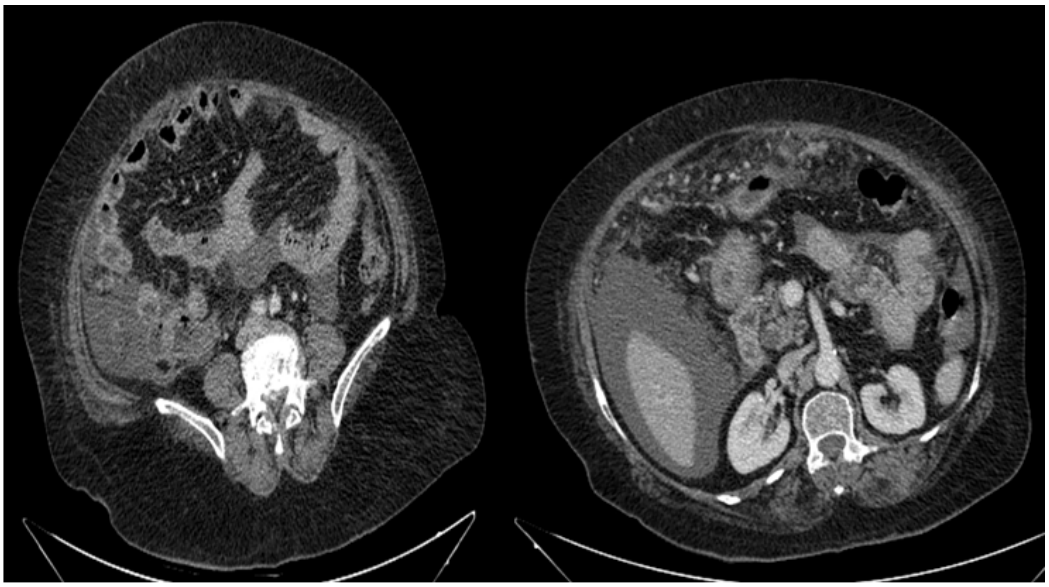
Histopathology confirmed the tumour as serous cystadenocarcinoma

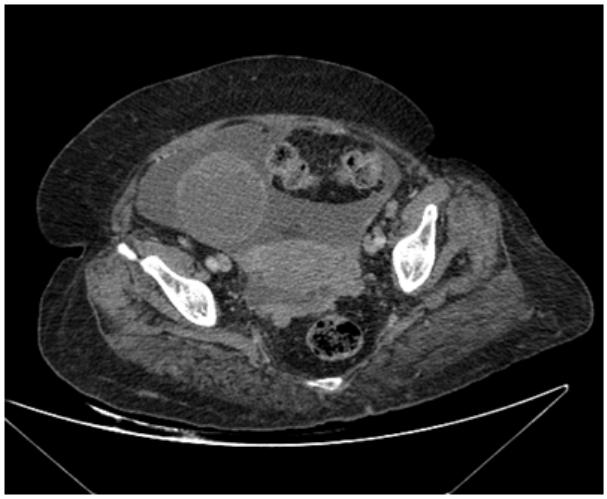
DISCUSSION

Peritoneal carcinomatosis, when extensive, are relatively common particularly in tumours of the abdomen and pelvis and generally imply a poor prognosis, often with a significant impact on palliation. Common primaries include: ovarian cancer, gastric cancer, oesophageal cancer, colorectal cancer, appendiceal malignancies, gallbladder carcinoma, pancreatic carcinoma, primary peritoneal malignancy and by haematogenous spread in breast cancer, lung cancer and malignant melanoma. Isolated peritoneal metastases are usually asymptomatic. Peritoneal carcinomatosis may also be asymptomatic, but eventually, most patients begin to report symptoms which can vary from uncomfortable to debilitating. Symptoms include: abdominal distention due to malignant ascites, abnormal bowel motility, resulting nausea/bloating, intermittent pains and bowel obstruction.



Figs. 1 and 2 reveal solid cystic lesion in right adnexa with enhancing solid component and intenalsepations consistent with ovarian tumour. The tumour turned out to be serous cystadenocarcinoma on histo-pathology





Figs. 3, 4 and 5 Show multiple enhancing soft tissue deposits along peritoneal reflections, serosal surface of bowel loops and pouch of douglas

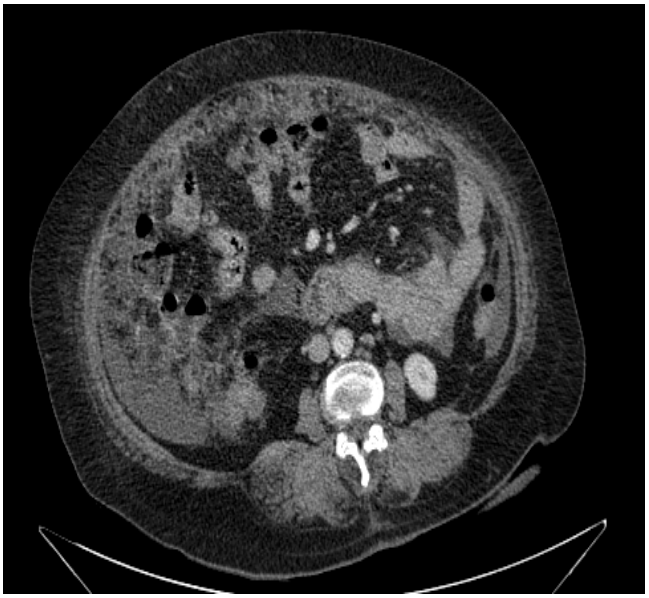


Fig. 6. Shows extensive thickening and stranding of omentum signifying omental caking

Malignant involvement of the peritoneal lining occurs via a number of routes, including intraperitoneal seeding and direct invasion: most common

- haematogenous dissemination
- lymphatic dissemination: rare

Although peritoneal metastases are visible on ultrasound, MRI and sometimes are implied on barium studies, CT is the most frequently used modality to investigate patients with suspected peritoneal metastases, or assess the resultant complications. Malignant ascites may be anechoic or have low-level echoes, and aids in the identification of deposits. Nodules are of intermediate echogenicity, hypoechoic compared to the peritoneum, whereas infiltration of the omentum results in hyperechogenicity. Peritoneal metastases can range in appearance from invisible to multiple large masses, and historically CT can only detect 60-80% of peritoneal metastases later shown to be present at surgery, although more recent studies reported detection rates of 85-93% (Levy, 2009).

Appearances include thickening and enhancement of peritoneal reflections, soft tissue nodules, stranding and thickening of the omentum, stranding and distortion of the small bowel mesentery, loculated ascites and calcification (Agarwal, 2004). Peritoneal implants are soft-tissue masses that appear as solitary or multiple nodules. The nodules can coalesce to form plaques that coat the viscera. These plaques appear as areas of irregular soft-tissue thickening. Large omental plaques are referred to as omental cakes. The implants may enhance with intravenous contrast material and may calcify. Common sites of metastases include the right hemidiaphragm, liver, right paracolic gutter, bowel, omentum, and pelvis (Forstner, 1995). Differential diagnosis includes pseudomyxomaperitonei, malignant peritoneal mesothelioma and peritoneal tuberculosis. The CT signs of pseudomyxomaperitonei are not specific, combining peritoneal effusion, peritoneal nodules, and invasion of the greater omentum. Although these features are very similar to those seen in peritoneal carcinomatosis, there are, however, a number of signs that point to pseudomyxomaperitonei including scalloping of liver, loculation of intraperitoneal effusion, curvilinear calcifications and lesions predominating in greater omentum and diaphragmatic peritoneum while serous membrane of digestive tract is rarely involved (Taourel, 2004; Bevan, 2010). Mesothelioma is a rare primary tumour of the connective tissue that can originate in the serous membranes of the pleura, peritoneum, or pericardium. Peritoneal involvement is reported in 25% of cases (Smiti, 2010). Occupational exposure to asbestos and the presence of pleural abnormalities, such as calcified plaques, that are suggestive of exposure to asbestos favour the diagnosis of mesothelioma While peritoneal tuberculosis may be difficult to diagnose, there are nonetheless signs that will assist in guiding diagnosis including presence of mesenteric macronodules, enhancement and regular thickening of the parietal peritoneum being identified, splenomegaly and calcifications of the spleen, associated involvement of the ileocecal wall and retroperitoneal and peri-pancreatic lymphadenopathy (Régent *et al.,* 2004; Akhan, 2002).

Ovarian carcinoma is the most common cause of death due to gynecologic malignancy. Peritoneal involvement is present in approximately 70% of patients at the time of initial diagnosis. Ovarian cancer cells are carried by peritoneal fluid throughout the abdomen and pelvis, resulting in widespread metastases. The fluid follows a circulation pathway from the pelvis to the diaphragm that is defined by the reflections of the peritoneum (Meyers, 1973). Patients who present with ovarian cancer undergo staging laparotomy with tumor debulking. Although the entire abdomen and pelvis are explored, certain sites are difficult to evaluate at surgery. These sites are the diaphragm, splenic hilum, stomach, lesser sac, liver, and mesenteric root and the paraaortic nodes above the renal vessels (Bristow, 2000). Consequently, detection of lesions at these sites is clinically helpful. CT and clinical parameters have been used to develop scoring systems for predicting the success of surgery (Forstner, 1995; Meyer, 1995). Imaging can also be used to determine if patients are candidates for neoadjuvant chemotherapy prior to surgery.

Conclusion

Peritoneal carcinomatosis are commonly seen in abdominal and pelvic malignancies. Presence of peritoneal carcinomatosis indicates a poor prognosis. CT is a useful modality to evaluate peritoneal deposits and in differentiating peritoneal carcinomatosis from similar conditions like pseudomyxomaperitonei, malignant peritoneal mesothelioma and peritoneal tuberculosis.

REFERENCES

Agarwal A., Yeh BM., Breiman RS. Et al. 2004. Peritoneal calcification: causes and distinguishing features on CT. *AJR Am J Roentgenol.* 182 (2): 441-5.

Akhan, O., Pringot. J. 2002. Imaging of abdominal tuberculosis EurRadiol, 12, pp. 312–323.

Bevan, K.E., Mohamed, F., Moran. B.J. 010. Pseudomyxomaperitonei *World J Gastrointest Oncol.*, 2 , pp. 44–50.

Bristow RE., Duska LR., Lambrou NC. et al. 2000. A model for predicting surgical outcome in patients with advanced ovarian carcinoma using computed tomography. Cancer 89:1532–1540.

Forstner R., Hricak H., Occhipinti KA., et al. 1995. Ovarian cancer: staging with CT and MR imaging. *Radiology*, 197:619–626.

Forstner R., Hricak H., White S. 1995. CT and MRI of ovarian cancer. Abdom Imaging 20:2–8.

Levy AD., Shaw JC., Sobin LH. 2009. Secondary tumors and tumorlike lesions of the peritoneal cavity: imaging features with pathologic correlation. Radiographics. 29 (2): 347-73.

Meyer JI., Kennedy AW., Friedman R. et al., 1995. Ovariancarcinoma: value of CT in predicting successof debulking surgery. *AJR Am J Roentgenol.,* 165:875–878.

Meyers MA. 1973. Distribution of intra-abdominal malignant seeding: dependency on dynamics of flow of ascitic fluid. *Am J Roentgenol Radium TherNucl Med.,* 119:198–206.

Régent, D., Laurent, V., Cannard, L., Leclerc, J.C., Tissier, S., Nicolas, M. et al. 2004. Le péritoinetémoinde la pathologieabdomino-pelvienne J Radiol, 85, pp. 555–571.

Smiti, S., Rajagopal K. 2010. CT mimics of peritoneal carcinomatosis Indian J RadiolImag, 20, pp. 58–62.

Taourel, P., Camus, C., Lesnik, A., Mattei-Gazagnes, M., Gallix, B., Pujol, J. et al. 2004. Imagerie du péritoine normal et pathologique.

****