

**Clinical Image**

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**FDG-avid omental cake from ovarian cancer****Yassir Benameur\***; Omar Ait Sahel; Salah Nabih Oueriagli; Abderrahim Doudouh

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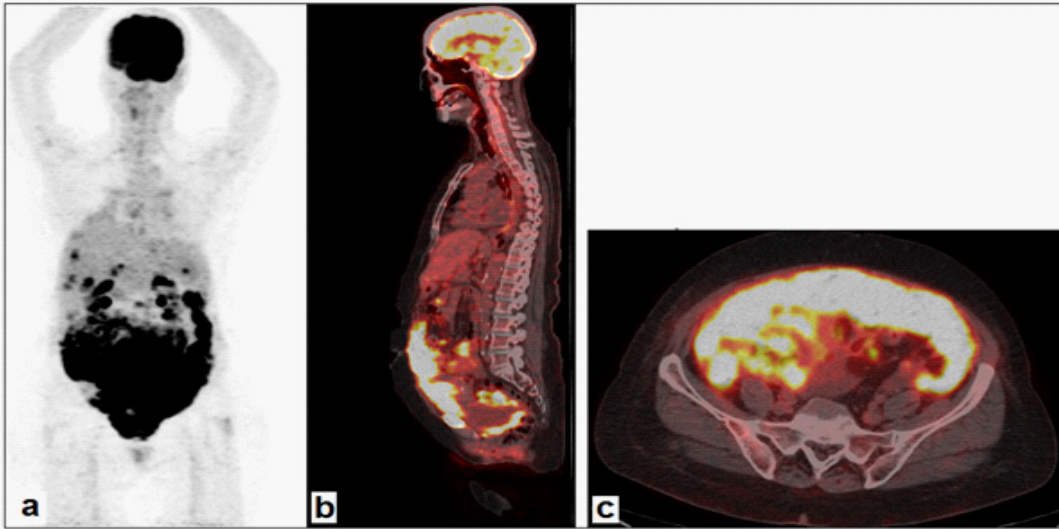
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**Keywords:** FDG; PET/CT; Ovarian cancer; Peritoneal carcinomatosis.**Description**

A 65-year-old multiparous patient presented to our hospital with vague abdominal pain for 2 months. Physical examination revealed normal bowel sounds in all four quadrants, with a soft and non-tender abdomen. Distension and dullness in percussion were noted. Initial investigations with abdominal Ultrasound (US) and Computerized Tomography (CT) revealed peritoneal fluid, and evaluation of the peritoneal fluid showed an elevated white blood cell count while fulfilling criteria for exudate. Serum tumor markers were elevated, suggesting an underlying malignancy. Apart from abdominal distension, the patient had no other gynecological complaints, and she declined any surgery. A whole body <sup>18</sup>F-FDG-PET scan done 60 min after the intravenous injection of 300MBq of <sup>18</sup>F-FDG demonstrated an unusually broad and prominent FDG-avid abdominal band in the region of the inferior abdomen and bilateral pelvic omental regions, and multiple nodular masses at the omentum with increased metabolic activity taking a pattern of FDG avid omental

cake. An exploratory laparoscopy confirmed diffuse carcinomatosis in the omentum and the coloparietal region bilaterally, as well as surrounding small bowel loops, the transverse and sigmoid colon, and the rectum. The peritoneal biopsy proved this to be due to metastatic deposits of high-grade serous ovarian carcinoma.

This case illustrates an extraordinary presentation of metastatic ovarian cancer with massive peritoneal carcinomatosis visualized on FDG-PET/CT and an unusual aspect of "FDG-avid omental cake". This term is used to describe serious and diffuse peritoneal carcinomatosis with a mass-like feature; metastatic disease is the most common cause of peritoneal metastasis and is usually associated with a poor prognosis [1]. The most frequent secondary cause of diffuse peritoneal infiltration is intraperitoneal tumor dissemination, which typically leads to ovarian, colorectal, and gastric cancers [2]. Inflammatory diseases such as tuberculosis, Crohn's disease, phlegmonous pancreatitis, granulomatous enterocolitis, and others are less frequent



**Figure 1:** Whole body  $^{18}\text{F}$ -FDG-PET scan (a) maximum intensity projection (b) fused coronal PET/CT (c) fused transaxial PET/CT, showing diffuse FDG uptake in the pelvic cavity as well as peritoneal reflections wrapping the liver and spleen, eliciting SUVmax up to 16.2, suggesting diffuse metastatic peritoneal carcinomatosis.

causes of peritoneal infiltration [3]. Epithelial ovarian cancer is the fourth most common cause of cancer death among females in developed countries, in addition to metastasizing through the blood or lymphatic system, ovarian cancer can also spread along the peritoneum [4]. Early detection of peritoneal carcinomatosis is very important to initiate the appropriate oncologic or surgical therapy. Radiological imaging is a valuable tool for guiding treatment management. In this context, the use of PET/CT employing  $^{18}\text{F}$ -FDG has been well established for evaluating the biological activity and presence of a suspicious peritoneal nodules and masses, and it has excellent diagnostic performance in the diagnosis of peritoneal carcinomatosis from ovarian cancer [5]. Recognizing the pattern of FDG-avid omental cake is of critical importance in the interpretation of PET imaging in assessing the ovarian cancer.

## References

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