TAPPING INTO A BREATHTAKINGLY RARE DIAGNOSIS: PRIMARY PERITONEAL CARCINOMA PRESENTING AS MALIGNANT PLEURAL EFFUSION

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CASE ONE

A 77-year-old woman with **no chronic illnesses** presented with progressive **dyspnea, cough, chest pain** and **unintentional weight loss.**

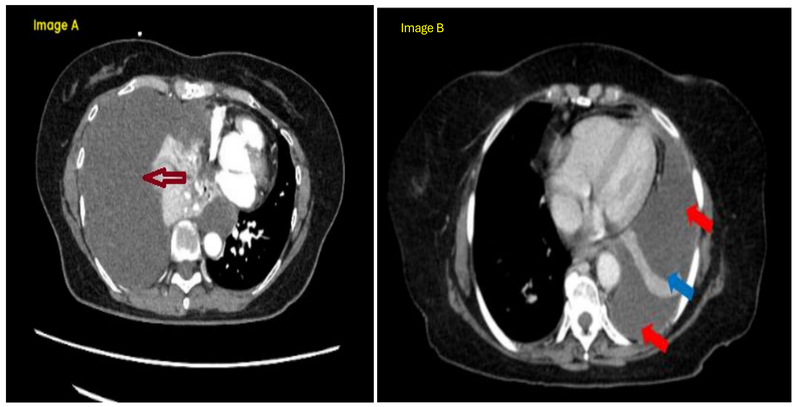
- Fever, chills, abdominal symptoms, travel, smoking history and age-appropriate cancer screening
- RR-26, SPO2-90, trachea deviated to right side, decreased breath sounds on left lung.
- Massive left pleural effusion, retroperitoneal lymphadenopathy, peritoneal implants, mild ascites
- Pleural fluid analysis indicated exudative effusion and serous adenocarcinoma cells.
- Positive cytokeratin-7, negative cytokeratin-20, elevated CA-125

CASE TWO

A 56-year-old woman with **no chronic illnesses** presented with **subacute dyspnea**, **cough**, **chest pain, nausea, fatigue** and **unintentional weight loss.**

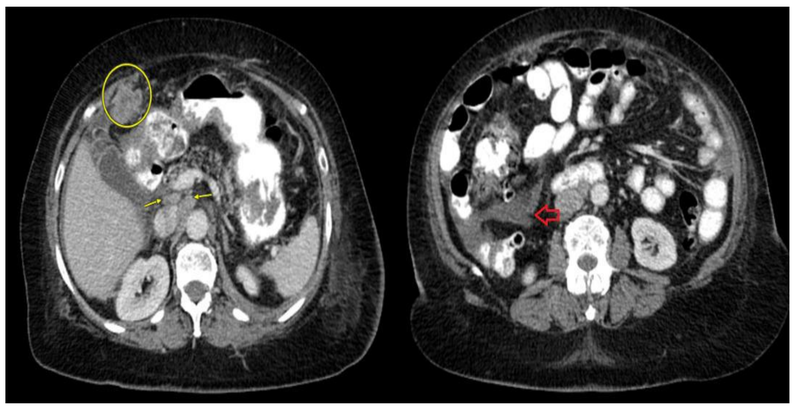
- Fever, chills, abdominal symptoms, recent travel, smoking history and cancer screening.
- Pulse-106, RR-28, SPO2-89, trachea deviated to left side, decreased breath sounds on right lung.
- CT chest and abdomen showed large right side pleural effusion, pleural thickening, multiple peritoneal implants, no ascites.
- Pleural fluid analysis indicated exudative effusion and serous adenocarcinoma cells.
- Positive cytokeratin-7, negative cytokeratin-20, elevated CA-125

FIGURE 1



CT scan of the chest showing (A) massive right pleural effusion (B) massive left pleural effusion [red arrows] with associated atelectasis [blue arrow]

FIGURE 2



CT scan of the abdomen showing large peritoneal implant (yellow circle), retroperitoneal lymphadenopathy (yellow arrows) and mild ascites [red arrow]

DISCUSSION

- Extraovarian primary peritoneal carcinoma (PPC) is a rare epithelial malignancy with female preponderance and an incidence of **6.8 per million**.
- Often mimics metastatic epithelial ovarian cancer with positive cytokeratin-7 and CA-125 and presents with nonspecific abdominal pain and ascites.
- Presence of peritoneal implants and positive serous adenocarcinoma cells in the absence of identifiable ovarian tumor satisfies the diagnosis.
- Uncommonly these two patients presented exclusively with respiratory symptoms and absent abdominal symptoms which has only been reported twice in literature.
- PPC should be a differential in female patients presenting with malignant pleural effusion in the absence of an identifiable tumor.

REFERENCES

Goodman MT, Shvetsov YB. Incidence of ovarian, peritoneal, and fallopian tube carcinomas in the United States, 1995-2004. *Cancer Epidemiol Biomarkers Prev*. 2009;18(1):132-139. doi:10.1158/1055-9965.EPI-08-0771

Shameem M, Akhtar J, Baneen U, et al. Primary peritoneal adenocarcinoma causes pleural effusion. *N Am J Med Sci*. 2010;2(6):281-284

Roh SY, Hong SH, Ko YH, et al. Clinical characteristics of primary peritoneal carcinoma. *Cancer Res Treat*. 2007;39(2):65-68. doi:10.4143/crt.2007.39.2.65

Kaira K, Takise A, Endou K, Yanagitani N, Sunaga N, Mori M. A case of primary peritoneal serous papillary carcinoma initially presented by massive bilateral pleural effusions. *Eur J Gynaecol Oncol*. 2006;27(2):197-199.

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