

## Case 7075

### Fallopian tube carcinoma

Caldeira JP, Cunha TM. Radiology Department, Instituto português de oncologia de francisco gentil de Lisboa, Portugal.

Instituto Português de Oncologia de Lisboa

**Section:** Genital (Female) Imaging

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**Patient:** 63 year(s), female

## Clinical Summary

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An adnexal mass was detected on gynecological ultrasound performed in a postmenopausal woman with intermittent vaginal discharge.

## Clinical History and Imaging Procedures

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A 63 year old nulligravid postmenopausal woman was referred to our department to undergo an investigation for a pelvic cystic lesion in the left adnexal area detected on transvaginal ultrasonography performed one month earlier. The patient had a history of intermittent vaginal bleeding for the last three months associated to pelvic pain relieved after vaginal discharge. Her past medical history was unremarkable. Transvaginal US revealed a sausage-shaped cystic mass in the right adnexal region, with interdigitating septae, mainly with pure cystic content and other areas with fine internal echoes. A solid component was observed as a papillary projection measuring 2cm. Both ovaries were seen without detectable abnormalities, the right ovary being adherent to the adnexal lesion. MRI showed a 12cm cystic tubuliform mass (high signal on T2-WI) in the right adnexal area with high signal intensity on T1-WI which remained high-signal intensity on fat-suppressed T1-WI, revealing its either high protein/hemorrhagic content suggesting hematosalpinx. Additionally, a low-signal intensity on both T1-WI and T2-WI focal nodularity within the cystic lesion was found showing homogeneous enhancement after Gadolinium-DTPA administration on fat-suppressed T1-WI, corresponding to the solid component seen on transvaginal US, measuring 2cm. CA-125 value was 8,8 U/ml, within normal range. A laparotomy was performed and the patient underwent a total hysterectomy, bilateral salpingo-oophorectomy, omentectomy and lymph node biopsies from the pelvic and para-aortic regions. The pathological

diagnosis was poor differentiated papillary serous adenocarcinoma of the right fallopian tube. The patient was then submitted to 6-cycles of adjuvant chemotherapy with carboplatin-paclitaxel.

## Discussion

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Fallopian tube is an uncommon site for gynecological primary neoplasms, contributing for 0.3-1% of all female genital malignancies. It occurs mainly in postmenopausal women with a higher incidence between the 4-6th decade of life. Most primary fallopian tube cancers arise from ampulla with endoluminal growth that leads to obstruction and distension of the fallopian tube (hydrosalpinx), which explains why the majority of these patients are rarely asymptomatic in contrast with those with ovarian cancer. The classic clinical triad of intermittent sudden and profuse watery serosanguineous vaginal discharge (hidrops tubae profluentis), pelvic colicky pain relieved by discharge and abdominopelvic mass, known as Latzko's triad, although very suggestive of this pathology, occurs only in 15% of the cases. Early clinical manifestation and prompt investigation often lead to diagnosis at an early stage of disease compared to that of ovarian cancer. However due to its rarity, the diagnosis of primary fallopian tube cancer is seldom considered preoperatively and is usually first appreciated by the pathologist. Most fallopian tube carcinomas present as papillary serous adenocarcinomas, being bilateral in 20% of the cases, mainly in advanced disease.

The intraperitoneal spread of fallopian tube carcinomas is similar to that of epithelial ovarian cancer. However, there seems to be a higher propensity for distant metastases. Imaging findings mainly consist of an adnexal complex cystic or solid mass associated with unilateral hydrosalpinx. A cystic folded tubular structure, often C or S shaped with interdigitating septae/incomplete mural folds or plicae adjacent to the mass represents the dilated tube. Signal intensity on T1 and T2 higher than serous fluid suggests hematosalpinx. MRI demonstrates complex solid and cystic enhancing masses similar to ovarian cancer. Imaging can most often detect solid and cystic components with papillary projections, which on MRI can be remarkably enhanced after gadolinium administration. Common associated findings are distension of the uterine cavity and ascites. Peritoneal metastases are similar to those in ovarian cancer. Lymph nodes metastases may be more often found than in ovarian cancer. The fallopian tube carcinomas are richly permeated with lymphatic channels that drain into para-aortic lymph nodes through infundibulopelvic lymphatics; metastases to the para-aortic lymph nodes occur in 33% of the cases. Primary ovarian cancers cannot reliably be differentiated from fallopian tube cancers; however the latter are exceedingly rare. Differentiate fallopian tube carcinoma from epithelial ovarian cancer is challenging for both radiologists and pathologists, sometimes being used the term tubo-ovarian cancer when it is not possible to depict its origin. In presence of associated hydrosalpinx, tubal cancer may mimic ovarian cancer with cystic and solid components, especially on T2-WI; however, identification of cystic areas representing the loops of the distended tube is usually possible. On MRI, the presence of key-morphological features of tubular or convoluted cystic mass with any of the findings of plicae, synechiae, T2-dark mural nodules, and "waist" and "beak" signs is highly suggestive of tubal origin. Metastases to the fallopian tubes which result most commonly from direct extension of gynecologic cancers cannot

reliably be differentiated from primary fallopian tube cancers.

## Final Diagnosis

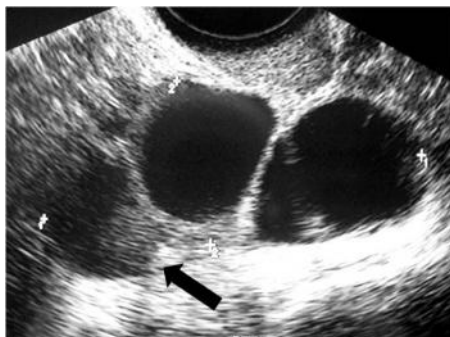
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Serous adenocarcinoma of the right fallopian tube.

## Figures

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**Figure 1**



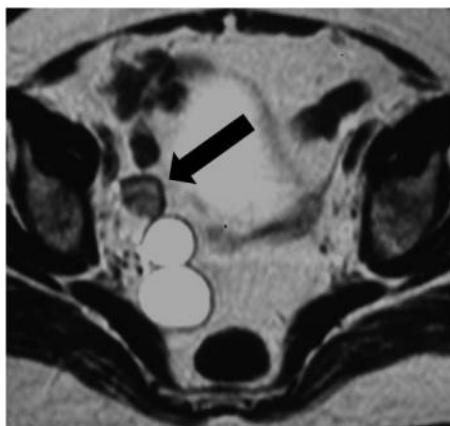
Longitudinal view of transvaginal ultrasonography scan shows a cystic mass in the right adnexal area with a solid vegetation in its superior aspect (arrow). The right ovary was adherent to this pelvic mass.

**Figure 2**



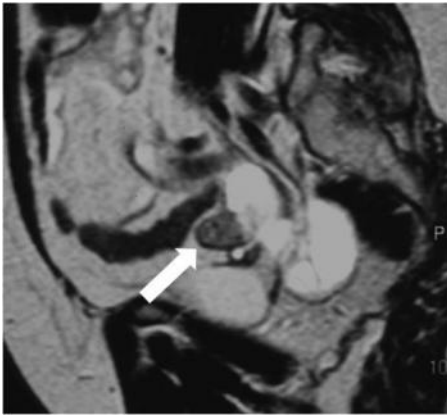
This transverse view of transvaginal sonogram shows fine internal echoes within some areas of the cystic lesion (arrow).

**Figure 3**



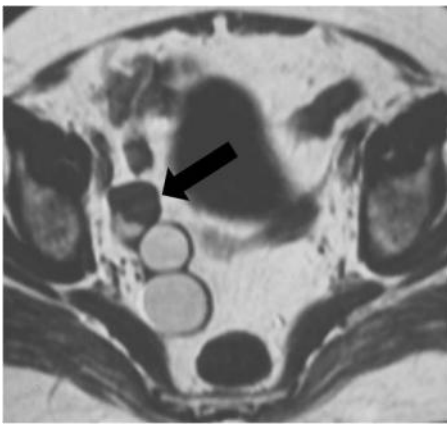
Transaxial T2-weighted MRI confirms the presence of a tubular cystic lesion in the right adnexal region with a solid nodule (arrow).

**Figure 4**



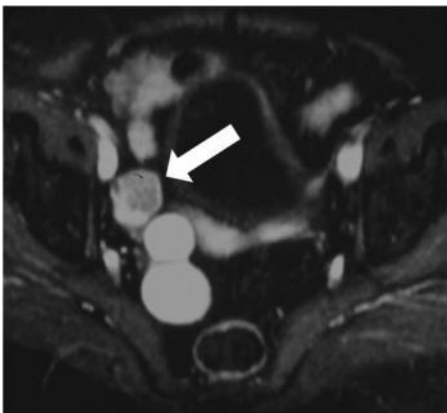
Sagittal T2-weighted image better depicts the tubular shape of the cystic lesion with interdigitating septae compatible with typical hydrosalpinx. Within the dilated fallopian tube a solid vegetation of 2 cm in diameter is observed in its superior aspect/ampulla of the fallopian tube (arrow).

**Figure 5**



Transaxial T1-weighted image shows high signal intensity of the dilated fallopian tube revealing high protein or hemorrhagic content. A low-signal intensity mural nodularity is seen (arrow).

**Figure 6**



Transaxial Gadolinium-DTPA T1-WI fat-suppressed image. The solid lesion within the dilated ampulla of the fallopian tube enhances after administration of contrast, a feature of tumoral solid lesions. The cystic areas remain hyperintense.

**Figure 7**



Gross specimen of the cystic right adnexal lesion representing emptied fallopian tube in its longest axis, previously distended with serous-hematic content, caused by luminal growth of solid tumor.

**Figure 8**



Gross examination of the right adnexal lesion, shows an infiltrative and endoluminal solid tumor that was causing tubal distension.

## MeSH

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### **Fallopian Tubes** [A05.360.319.114.373]

A pair of highly specialized muscular canals extending from the UTERUS to its corresponding OVARY. They provide the means for OVUM collection, and the site for the final maturation of gametes and FERTILIZATION. The fallopian tube consists of an interstitium, an isthmus, an ampulla, an infundibulum, and fimbriae. Its wall consists of three histologic layers: serous, muscular, and an internal mucosal layer lined with both ciliated and secretory cells.

### **Fallopian Tube Neoplasms** [C13.371.056.390.390]

Benign or malignant neoplasms of the FALLOPIAN TUBES. They are uncommon. If they develop, they may be located in the wall or within the lumen as a growth attached to the wall by a stalk.

## References

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## Citation

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