Am J Surg Pathol 2018;42:813–820

Fallopian Tube Mucosal Involvement in Cervical Gastric-type Adenocarcinomas

Report of a Series With Discussion of the Distinction From Synchronous In Situ Tubal Lesions

指导教授：张静

汇报人：吴建锋

宫颈肿瘤 WHO 分类

1、上皮肿瘤

1.1 鳞癌和前驱病变

鳞状上皮内病变

低度鳞状上皮内病变 8077/0

高度鳞状上皮内病变 8077/2

鳞状细胞癌，非特殊型（NOS） 8070/3

角化型癌 8071/3

非角化型癌 8072/3

乳头状癌 8052/3

基底样癌 8083/3

湿疣性癌 8051/3

疣状癌 8051/3

鳞状-移行细胞癌 8120/3

淋巴上皮瘤样癌 8082/3

1.2 良性鳞状上皮病变

鳞状化生

尖锐湿疣

鳞状上皮乳头状瘤 8052/0

移行细胞化生

1.3 腺癌和前驱病变

原位腺癌 8140/2

腺癌 8140/3

子宫颈管腺癌，普通型 8140/3

黏液性癌，非特殊型（NOS） 8480/3

胃型 8482/3

肠型 8144/3

印戒细胞型 8490/3

绒毛状腺癌 8263/3

子宫内膜样腺癌 8380/3

透明细胞癌 8310/3

浆液性癌 8441/3

中肾管癌 9110/3

混合性腺癌-神经内分泌癌 8574/3

1.4 良性腺上皮肿瘤和瘤样病变

子宫颈息肉

苗勒上皮乳头状瘤

纳氏囊肿

隧道样腺丛

微腺体增生

小叶状子宫颈腺体增生

弥漫性层状子宫颈管腺体增生

中肾管残余和增生

Arial Stella 反应

子宫颈管内膜异位

子宫内膜异位

输卵管子宫内膜样化生

异位前列腺组织

1.5 其它上皮肿瘤

腺鳞癌 8560/3

毛玻璃细胞癌 8015/3

腺样基底细胞癌 8098/3

腺样囊性癌 8200/3

未分化癌 8020/3

1.6 神经内分泌肿瘤

低级别神经内分泌肿瘤

类癌 8240/3

非典型类癌 8249/3

高级别神经内分泌肿瘤

小细胞神经内分泌癌 8041/3

大细胞神经内分泌癌 8013/3

2、间叶肿瘤和瘤样病变

良性

平滑肌瘤 8890/0

横纹肌瘤 8905/0

其他

恶性

平滑肌肉瘤 8890/3

横纹肌肉瘤 8910/3

腺泡状软组织肉瘤 9581/3

血管肉瘤 9120/3

恶性外周神经鞘瘤 9540/3

其他肉瘤

脂肪肉瘤 8850/3

未分化宫颈肉瘤 8805/3

Ewing 肉瘤 9364/3

瘤样病变

手术后梭形细胞结节

淋巴瘤样病变

3、混合性上皮-间叶肿瘤

腺肌瘤 8932/0

腺肉瘤 8933/3

癌肉瘤 8980/3

4、黑色素肿瘤

蓝痣 8780/0

恶性黑色素瘤 8720/3

5、生殖细胞肿瘤

卵黄囊瘤

6、淋巴和髓系肿瘤

淋巴瘤

髓系肿瘤

7、继发性肿瘤

Int. J. Cancer: **137**, 2858–2868 (2015)

IJC
International Journal of Cancer

Human … n in cervical … multina…

宫颈腺癌中HPV阳性率：

高表达：原位腺癌、腺鳞癌、普通型宫颈管腺癌

低/不表达：透明细胞癌、浆液性癌、子宫内膜样癌、胃型腺癌

Katsiaryna Holl[1]
Sabrina Collas …[‡],
Vasileia Damas…,
Olaf Reich[17‡], A… avicheva[22§],
Elena Shipitsyna[2]…

[1] Global Health Economics, GSK Vaccines, Wavre, Belgium
[2] First Department of Oncologic Gynaecology and Gynaecology, Medical University of Lublin, Poland

胃型黏液腺癌
Mucinous carcinoma, gastric-type

◈ 定义

发生于宫颈的一种显示胃型分化的黏液腺癌

◈ ICD-O编码：8482/3

◈ 流行病学

日本研究：占所有宫颈腺癌25%

平均发病年龄约42岁

有报道与Peutz-Jeghers综合征相关

胃型黏液腺癌

Mucinous carcinoma, gastric-type

◇临床特征

典型症状为阴道出血或黏液样排出物

◇大体形态

实性质硬肿块，宫颈通常呈“桶状”扩张

切面可见出血，质脆，或呈黏液样，棕色或黄色

胃型黏液腺癌
Mucinous carcinoma, gastric-type

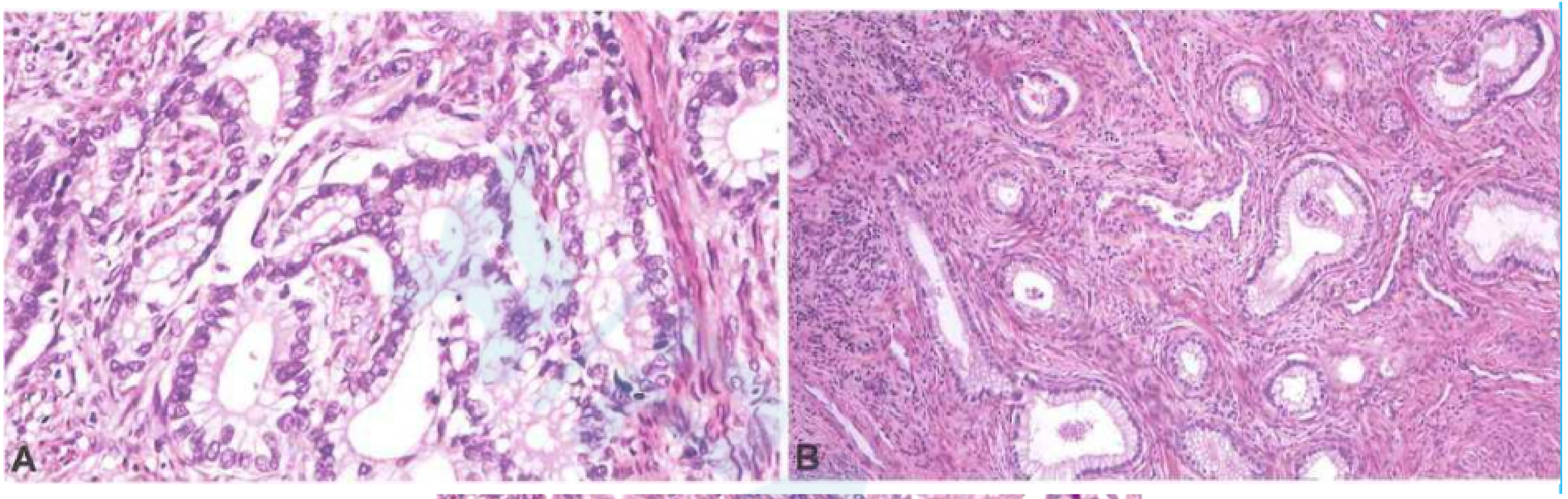
◇组织病理学

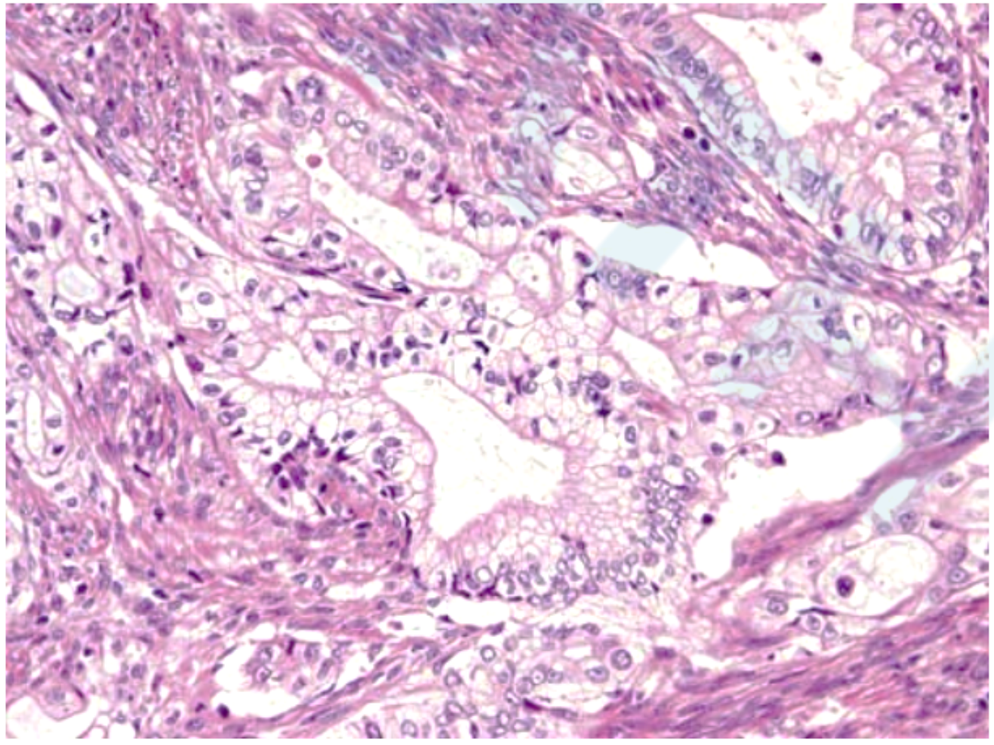
黏液腺体：形状不规则、扩张，也可融合或呈筛状

细胞胞浆丰富、嗜酸/透明，细胞边界清楚

核增大、不规则、深染，可见核分裂象

周围间质可见促纤维增生，或仅有轻微间质反应


A
B



Am J Surg Pathol 2016;40:636–644

A Detailed Immunohistochemical Analysis of a Large Series of Cervical and Vaginal Gastric-type Adenocarcinomas

Claire Carleton, MD, Lien Hoang, MD,† Shatrughan Sah, FRCPath,‡ Takako Kiyokawa, MD,§ Yevgeniy S. Karamurzin, MD,‖ Karen L. Talia, MD,¶ Kay J. Park, MD,† and W. Glenn McCluggage, FRCPath**

免疫表型

阳性：MUC6、HIK1083、CK7、CEA、CDX2

CA19.9、PAX8、CA125、CK20，P53

阴性：ER、PR、P16

Am J Surg Pathol 2007;31:664–672

Gastric Morphology and Immunophenotype Predict Poor Outcome in Mucinous Adenocarcinoma of the Uterine Cervix

Atsumi Kojima, MD,† ‡ Yoshiki Mikami, MD,§ Tamotsu Sudo, MD,* Satoshi Yamaguchi, MD,† Yasuki Kusanagi, MD,‡ Masaharu Ito, MD,‡ and Ryuichiro Nishimura, MD*†*

预后

胃型腺癌预后较普通型腺癌差，侵袭性更强，常见腹膜和腹腔蔓延

5年无病生存率仅为30% *vs.* HPV相关腺癌为77%

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Gastric type endocervical adenocarcinoma: an aggressive tumor with unusual metastatic patterns and poor prognosis

Yevgeniy S. Karamurzin, MD[1], Takako Kiyokawa, MD, PhD[2], Vinita Parkash, MBBS[3], Anjali R. Jotwani, BS[4], Prusha Patel, MPH[4], Malcolm C. Pike, PhD[4], Robert A. Soslow, MD[5,6], and Kay J. Park, MD[5]

59%胃型腺癌为II期/III期；50%发生淋巴结转移；35%转移至卵巢；20%转移至腹腔

比HPV相关腺癌更容易转移至腹膜、网膜及卵巢

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Secondary involvement of the adnexa and uterine corpus by carcinomas of the uterine cervix: a detailed morphologic description

HPV相关腺癌侵犯输卵管时常累及黏膜，并与输卵管原发浆液性上皮内癌（STIC）形态极其相似

研究目的

讨论胃型腺癌侵犯输卵管黏膜与输卵管原发肿瘤在形态学以及免疫组化上的区别，从而提高诊断准确性

MATERIALS AND METHODS

材料与方法

◇病例来源

作者单位及会诊病例共7例

◇免疫组化

P16、P53

RESULTS

TABLE 1. Clinicopathologic Features of Study Cases

Cases	Age (y)	Operative Procedure	Parametrial/ Paracervical Involvement	Endometrial Involvement	Vaginal Involvement	Lymphovascular Invasion	Laterality of Fallopian Tube Involvement	Laterality of Ovarian Involvement	Lymph Node Status
1	44	Radical hysterectomy, bilateral salpingo-oophorectomy, omental, and peritoneal biopsy	Absent	Present	Absent	Present	Left	Bilateral	Not applicable
2	61	Radical hysterectomy, bilateral salpingo-oophorectomy, omentectomy, appendicectomy, and pelvic lymph node dissection	Present	Present	Absent	Present	Left	Right	Involved
3	68	Cervical and endometrial biopsy and bilateral salpingo-oophorectomy	Not known (no hysterectomy)	Present on endometrial biopsy	Not known (no hysterectomy)	Present	Bilateral	Bilateral	Not applicable
4	58	Total pelvic exenteration (uterus, cervix, bilateral salpingo-oophorectomy, bladder, rectum, sigmoid colon, and vagina)	Present	Present	Present	Present	Bilateral	Left (right ovary not identified)	Not applicable
5	64	Radical hysterectomy, bilateral salpingo-oophorectomy, and pelvic lymph node dissection and mesenteric biopsy	Present	Present	Absent	Present	Right	Left	Involved
6	48	Simple hysterectomy and bilateral salpingo-oophorectomy, para-aortic, aorto-caval, and left infrarenal lymph node dissection (postchemoradiotherapy)	Absent on imaging	Present on endometrial biopsy but not on hysterectomy postchemoradiotherapy	Present on imaging	Present	Bilateral	Bilateral	Involved
7	51	Radical hysterectomy, bilateral salpingo-oophorectomy, and pelvic lymph node dissection	Present	Absent	Absent	Present	Bilateral	Bilateral	Not involved

研究结果

- 所有病例均存在脉管侵犯；2/6例侵及阴道
- 所有病例均累及输卵管（3例单侧，4例双侧）
- 所有病例均累及卵巢（3例单侧，4例双侧）
- 6/7例累及子宫内膜（常为子宫下段）；其中3例累及子宫肌壁
- 3/4例出现淋巴结转移
- 4/6例侵犯至宫旁

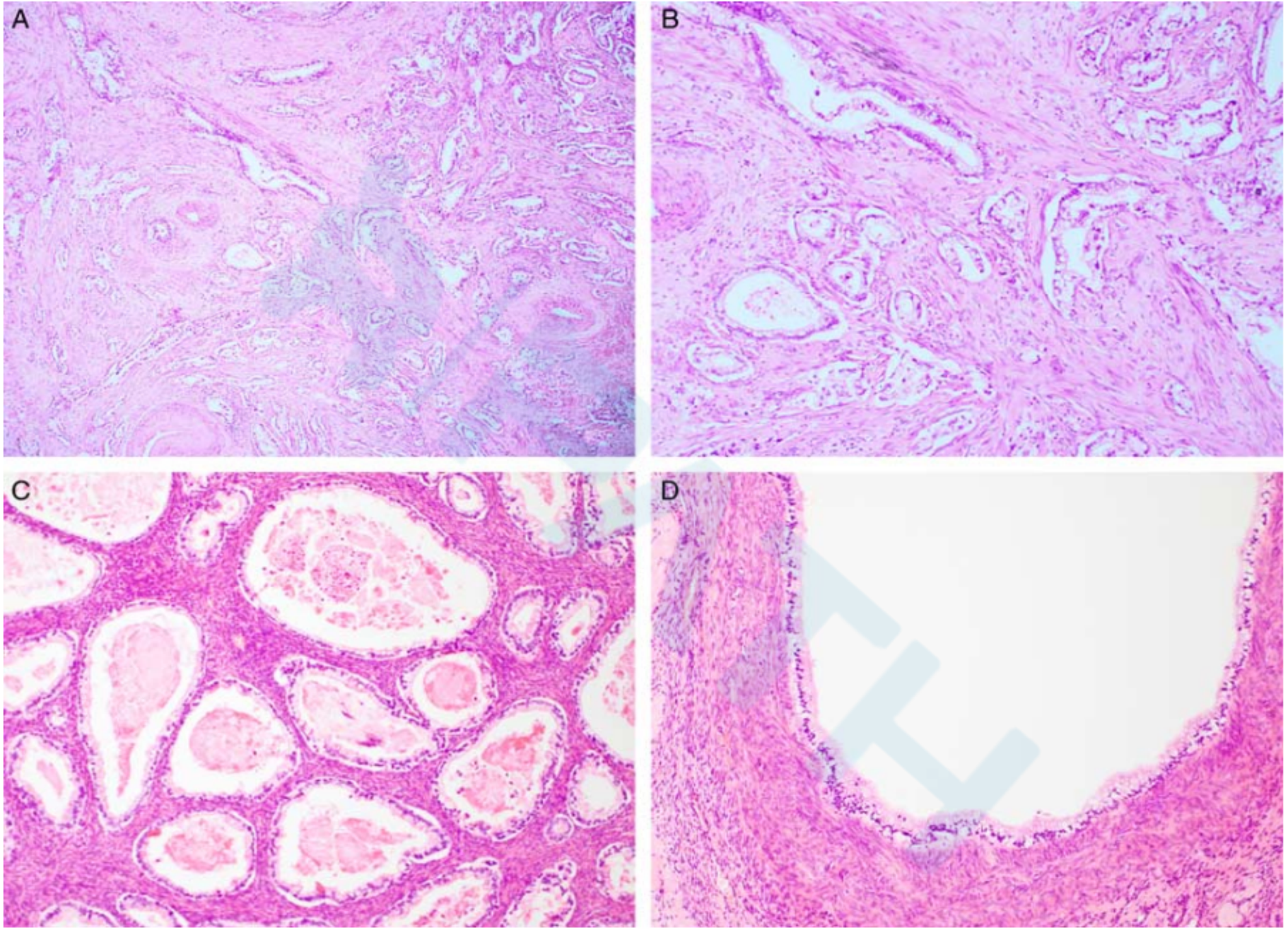

FIGURE 1. A and B, Case showing cervical involvement by gastric-type adenocarcinoma with deeply invasive mucinous glands surrounded by a desmoplastic stroma. Ovarian metastasis composed of bland mucinous glands (C) and cystic spaces lined by bland mucinous epithelium (D).

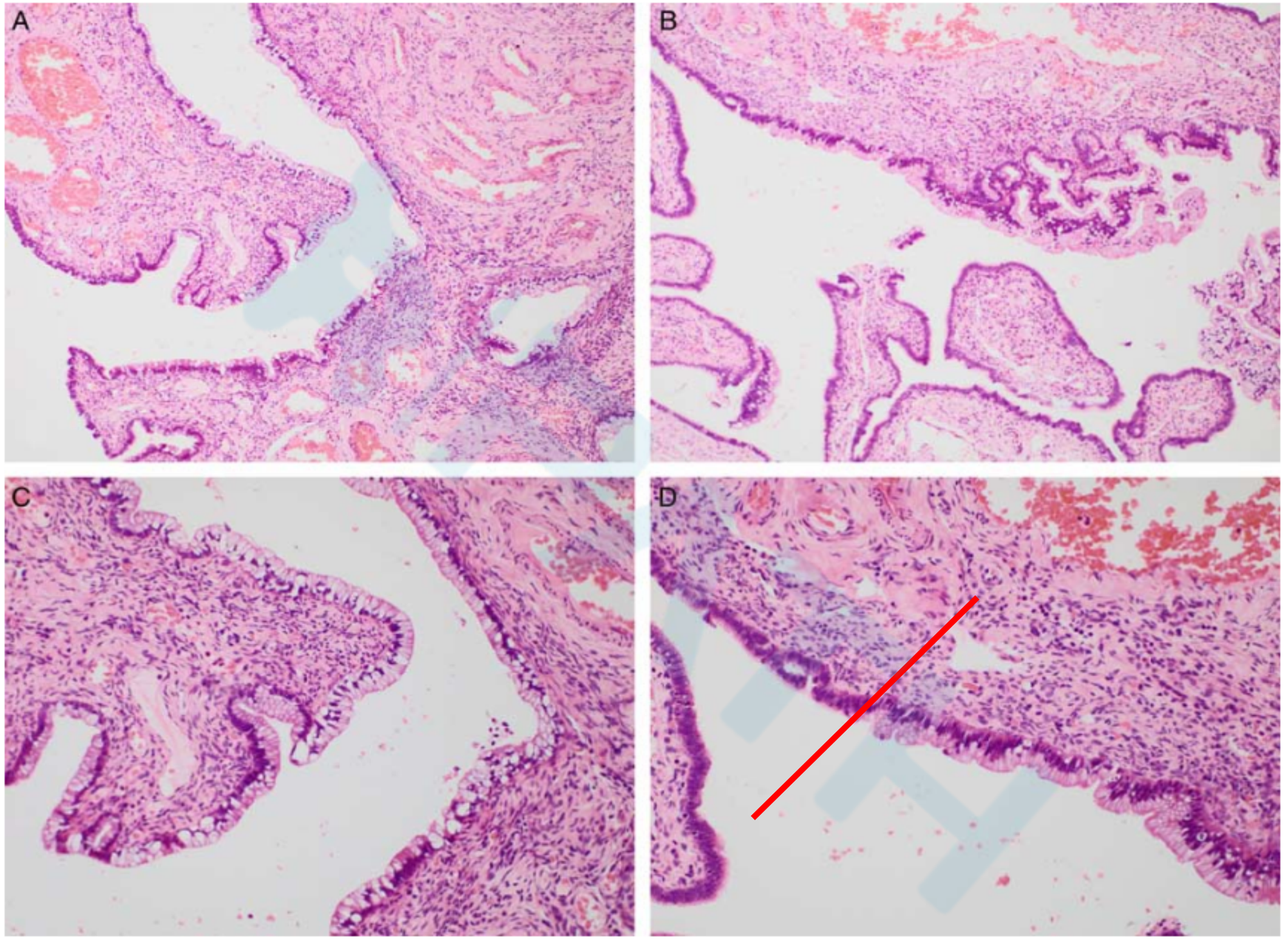

FIGURE 2. A and B, Case showing fallopian tube involvement confined to the mucosa and predominantly comprising a single layer of mucinous epithelium. C, On higher power, the morphology is bland and the cells have abundant mucinous cytoplasm. D, There is a sharp demarcation between normal fallopian tube epithelium (left of photomicrograph) and gastric-type adenocarcinoma involving the mucosa (right of photomicrograph).

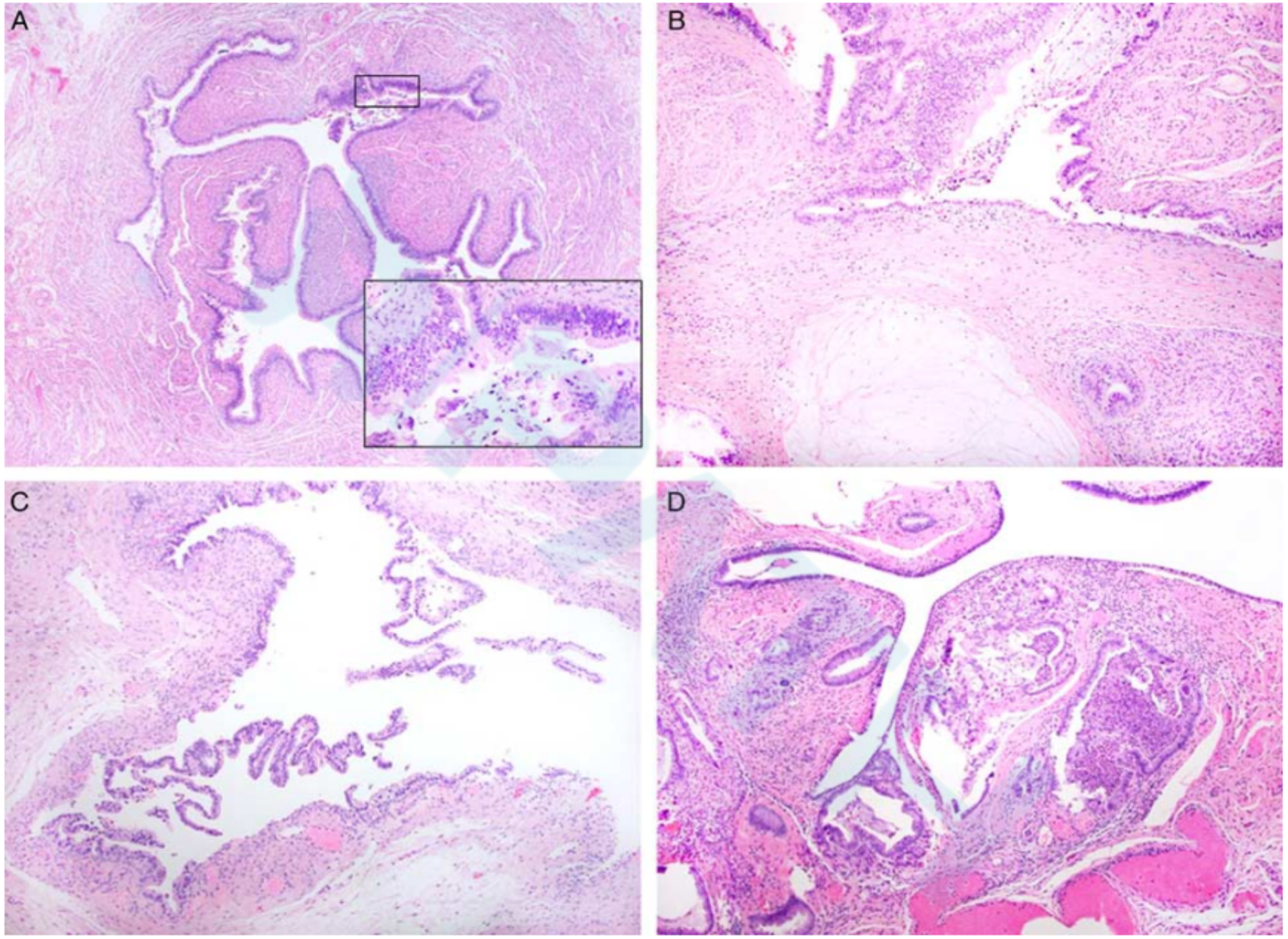

FIGURE 3. Other features of fallopian tube involvement. A, Case showing focal involvement of the nonfimbrial portion of the tube; there is epithelial proliferation with nuclear atypia and tufting (inset). B, Case showing mucin extravasation within the tubal stroma. C, Case where the mucinous epithelium has "lifted-off" and separated from the underlying stroma resulting in a subepithelial cleft. D, Case exhibiting involvement of submucosa.

TABLE 2. Results of p53 Immunohistochemistry

Cases	Cervix	Fallopian Tube
1	Wild-type	Wild-type
2	Mutation-type (diffuse)	Mutation-type (diffuse)
3	Mutation-type (diffuse)	Mutation-type (diffuse)
4	Wild-type	Wild-type
5	Mutation-type (diffuse)	Mutation-type (diffuse)
6	Mutation-type (null)	Mutation-type (null)
7	Mutation-type (diffuse)	Mutation-type (diffuse)

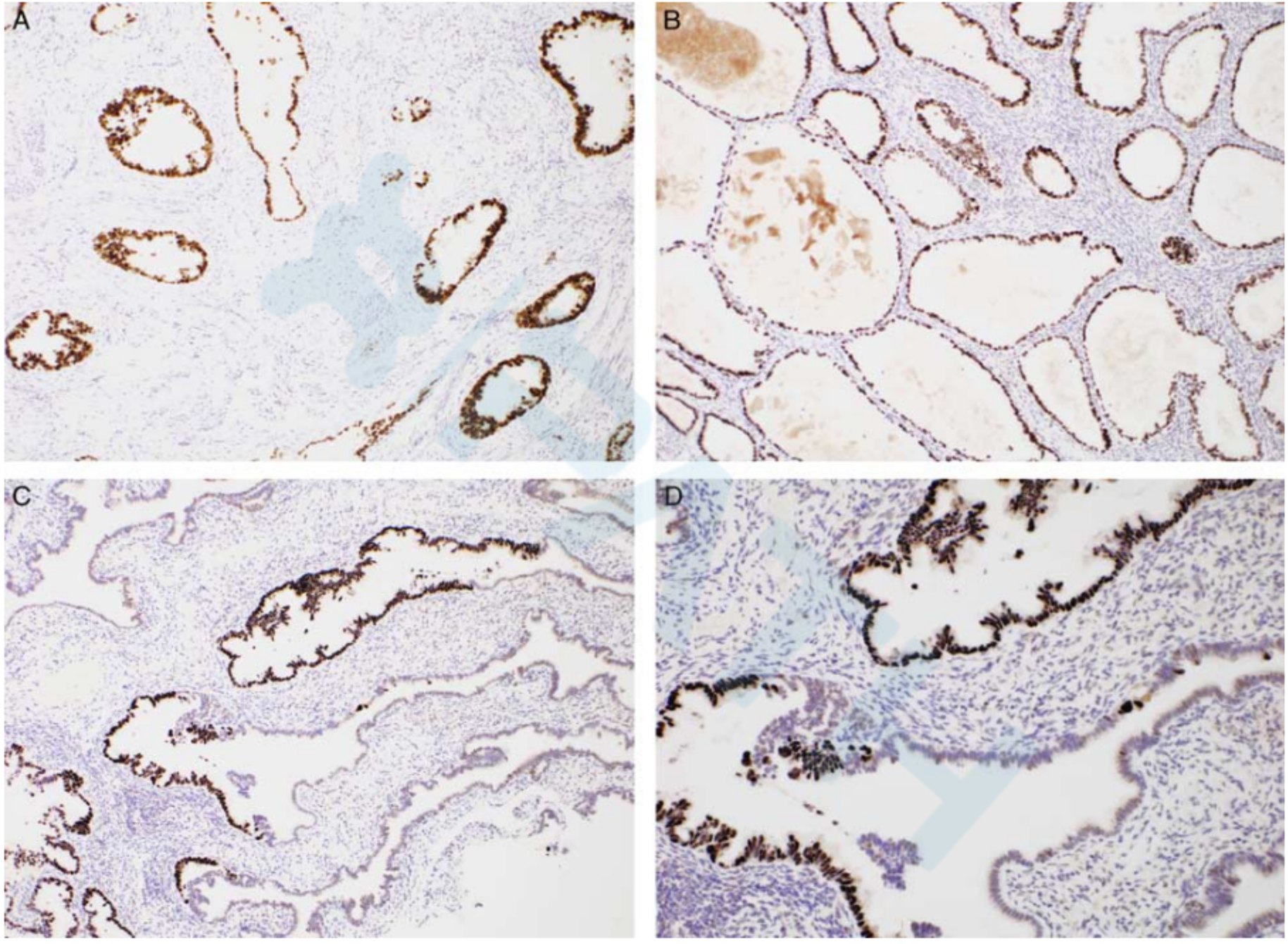

FIGURE 4. Case showing diffuse mutation-type p53 staining of tumor in cervix (A), ovary (B), and fallopian tube (C, D); the normal fallopian tube epithelium exhibits wild-type p53 immunoreactivity (D).

DISCUSSION

DISCUSSION

- 宫颈癌较少转移至卵巢，腺癌转移>鳞癌转移；胃型腺癌最常发生卵巢转移

- HPV相关宫颈鳞癌和腺癌的输卵管侵犯常常累及输卵管黏膜，与STIC类似；胃型腺癌也具有这一特征

DISCUSSION

- 本文6/7病例累及子宫内膜，且输卵管病变局限于黏膜，推测病变可能经子宫播散至卵巢及输卵管

- HPV相关宫颈腺癌经子宫&输卵管播散至子宫内膜、卵巢、输卵管，该播散方式较血行播散预后好

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Int J Gynecol Pathol. 2015 November ; 34(6): 551–563. doi:10.1097/PGP.0000000000000206.

Secondary involvement of the adnexa and uterine corpus by carcinomas of the uterine cervix: a detailed morphologic description

ORIGINAL ARTICLE

Am J Surg Pathol 2008;32:1835–1853

Endocervical Adenocarcinomas With Ovarian Metastases

Analysis of 29 Cases With Emphasis on Minimally Invasive Cervical Tumors and the Ability of the Metastases to Simulate Primary Ovarian Neoplasms

DISCUSSION

HPV相关宫颈腺癌累及输卵管黏膜、卵巢时与原发黏液性&子宫内膜样肿瘤、交界性肿瘤或恶性肿瘤形态类似

a)伸长的细胞核、顶层细胞显著的核分裂象、基底层凋亡小体

b)双侧卵巢受累、卵巢表面有肿瘤组织、间质内浸润性生长

c)P16弥漫阳性/HPV杂交阳性

DISCUSSION

本文的7个病例中，5例本单位的病例诊断为胃型腺癌累及输卵管，2例会诊病例诊断为输卵管原发性上皮内肿瘤。因此，二者的鉴别具有挑战性及必要性

a)明确有无宫颈病变

b)输卵管、卵巢病变的核异型性是否显著、有无浸润性证据

c)P53突变状态的一致性

注意：92%的STIC具有特征性的P53突变

DISCUSSION

宫颈胃型黏液腺癌累及输卵管黏膜时，极易被误诊为输卵管原发黏液性癌

a)输卵管原发黏液性癌极其罕见

b)P53是否突变？

c)邻近输卵管上皮是否有黏液性化生？

d)卵巢是否有黏液性囊腺瘤/黏液性交界性肿瘤？

Int J Gynecol Pathol. 2017 Jul;36(4):393-399. doi: 10.1097/PGP.0000000000000330.

Primary Mucinous Carcinoma of the Fallopian Tube: Case Report and Review of Literature.

Wheal A[1], Jenkins R, Mikami Y, Das N, Hirschowitz L.

THANK YOU

Any questions?

Q&A