

Supplement table 1. Clinicopathological features for of 60 villoglandular adenocarcinoma patients

Number	Age	HPV	FIGO stage	Surgery	Adjuvant therapy	DSI>1/2	LVSI	LN(+)	Follow-up(m)	Outcome
1	48		IB1	ATH+BS		+		ND	90.00	NED
2	52	16+	IB1	RRT+ PLND					49.23	NED
3	47	16+,56+,66+	IB1	ARH+BSO+ PLND					117.67	NED
4	50	16+	IB1	ARH +BSO+ PLND					83.60	NED
5	52	18+	IIA1	ARH +BSO+ PLND	NACT+RT				23.60	NED
6	41	—	IB1	LRH +BSO+PLND					13.07	NED
7	43	16+	IB1	ARH +BSO+ PLND					5.70	NED
8	40	16+	IB2	ARH+BS+PLND	chemo/RT	+	+		56.93	NED
9	45	16+	IB1	ARH +BSO+ PLND					50.13	NED
10	30		IIA2	ARH +BS+ PLND	chemo/RT	+		+	31.87	NED
11	36	16+	IB1	ARH +BSO+ PLND					7.17	NED
12	45	16+	IB1	ARH +BSO+ PLND					5.07	NED
13	39	18+	IB1	ARH +BS+PLND		UN			50.23	NED
14	49		IB1	ARH +BSO+ PLND		UN			42.53	NED
15	40	16+	IA2	LTH+BS		UN		ND	25.33	NED
16	41		IB1	ARH +BSO+ PLND	chemo				50.80	NED
17	41		IB1	ARH +BSO+ PLND					75.33	NED
18	48		IB1	ARH +BSO+ PLND					84.43	NED
19	47		IB1	ARH +BSO+ PLND	chemo				111.97	NED
20	36		IB1	LRH+BSO+ PLND	NAIC+chemo				-	Lost
21	33		IB1	RAH +BS+ PLND					152.20	NED
22	36		IB2	ARH+BSO+ PLND		+			154.57	NED
23	45		IB1	ARH +BSO+ PLND					-	Lost
24	39		IB1	ARH +BSO+ PLND	chemo/RT	+			61.70	NED
25	36		IB1	ATH+BS	chemo			ND	56.13	NED
26	35		IB2	ARH +BSO+ PLND					-	Lost
27	42		IB2	LRH +BS+ PLND	NAIC+ chemo	+			69.03	NED
28	68		IA2	LRH +BSO+ PLND		UN			63.50	NED
29	45	—	IB2	LRH +BSO+ PLND	chemo				60.17	NED
30	44		IIA1	LRH +BS+ PLND	NACT+chemo				38.80	NED
31	27		IB2	LRH +BS+ PLND	NACT+chemo				55.57	NED
32	56		IA2	LRH +BSO+ PLND	chemo				54.87	NED
33	42		IIA1	LRH +BS+ PLND	chemo				13.03	NED
34	40		IB1	LRH +BS+ PLND	chemo				44.63	NED
35	49		IA2	ATH+ BS+PLND	NAIC+ chemo				109.97	NED
36	47		IB1	LRH +BSO+ PLND + PALND					15.63	NED
37	28	18+	IB2	LRH +BSO+ PLND	chemo/RT	+			-	Lost
38	43		IB1	LRH +BSO+ PLND + PALND					23.33	NED

39	32		IB1	ARH + BS + PLND		UN		38.80	NED
40	41		IB1	ARH + BSO + PLND	chemo			110.17	NED
41	36	18+	IB1	ARH + BSO + PLND				-	Lost
42	38		IB2	ARH + BSO + PLND	NACT+chemo			83.37	NED
43	58	18+	IB1	ARH +BSO+ PLND				57.93	NED
44	50	16+	IB1	LRH + BSO + PLND	chemo/RT	+	+	33.17	NED
45	50		IB1	LRH + BSO + PLND	chemo/RT	+		43.50	NED
46	42	16+	IB1	ARH + BSO + PLND	chemo/RT	+	+	36.43	NED
47	38		IB1	LTH+ BSO			ND	85.17	NED
48	34		IB2	ARH + BSO + PLND	NACT+chemo /RT			52.83	NED
49	42		IB1	ARH + BSO + PLND				35.63	NED
50	61		IIA1	LRH + BSO + PLND				34.50	NED
51	52	16+, 18+	IB1	ARH + BSO + PLND		+		30.83	NED
52	51	HC2+	IB1	LRH + BSO + PLND		+		41.87	NED
53	38		IB1	LRH + BSO + PLND		UN		37.40	NED
54	53		IIA1	ARH + BSO + PLND				26.90	NED
55	50		IB1	LRH + BSO + PLND	RT	+		25.27	NED
56	54		IB1	ARH + BSO + PLND		+	+	110.40	NED
57	40		IB2	ARH +BSO+ PLND	NACT+chemo			113.93	NED
58	36		IB1	ARH +BSO+ PLND + PALND			UN	63.80	NED
59	64		IB1	LRH +BSO+ PLND	chemo/RT	+		-	Lost
60	42		IB2	LRH+BSO+ PLND + PALND	NACT			-	Lost

HPV, human papillomavirus; ARH, abdominal radical hysterectomy; ATH, abdominal total hysterectomy; BS, bilateral salpingectomy; BSO, bilateral salpingo-oophorectomy; chemo, chemotherapy; DSI, deep space stromal invasion; Lost, lost interview; LRH, laparoscopic radical hysterectomy; LTH, laparoscopic total hysterectomy; LVSI, lymphovascular infiltration; LN, lymph node; NACT, neoadjuvant chemotherapy; NAIC, neoadjuvant arterial interventional chemotherapy; NED, no evidence of recurrence; PALND, paraaortic lymphadenectomy; PLND, Pelvic lymphadenectomy; RRT, radical residual trachelectomy; RT, radiotherapy; ND, no dissection; UN, unknown; HC2, HC2 high-risk HPV DNA Test;

Supplement table 2. Immunohistochemistry of 8 patients with villoglandular adenocarcinoma.

Patients	P16	Ki67	P53	ER	PR	CK7	CK20	Villin	VIM	CEA
1		90%+	-	±	±	3+	-	±	-	
2	+	90%+								
3	+	80%+	-	+	±	+	-		-	-
4		>50%+	-	-	-	+				-
5	+	50%+		±	-				-	±
6	+	20%+	20%+						-	+
7	+	80%+	-	±			-	+	-	+
8	+	60%+	-	-	-				-	

CK, cytokeratin; ER, estrogen receptor; PR, progesterone receptor; VIM, vimentin;