Supplementary Information

Title

Preoperative Uterine Weight Estimation Using UroNav in Robot-Assisted Total Laparoscopic Hysterectomy: An Exploratory Study

Authors

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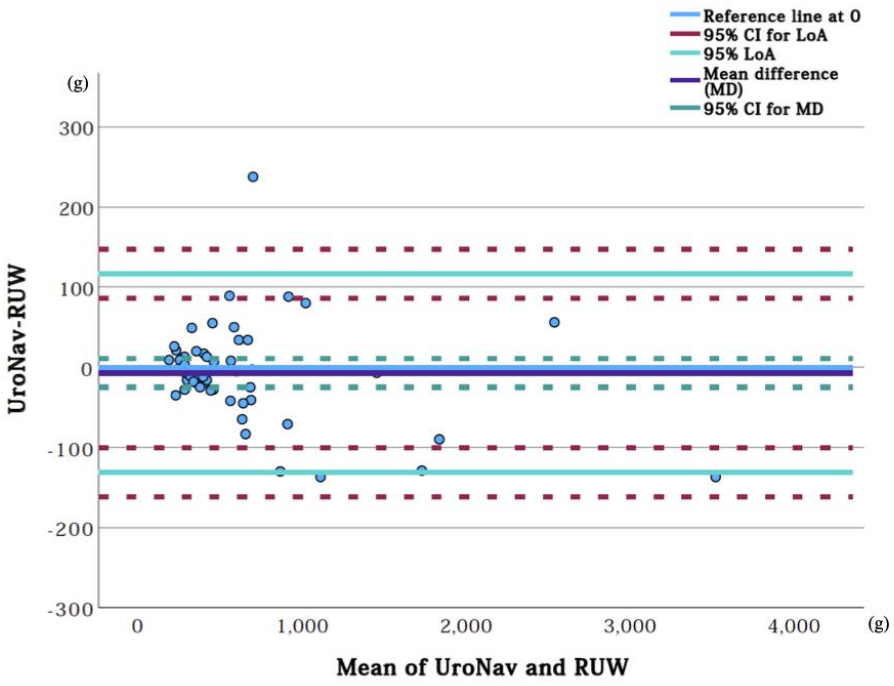
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Supplementary Fig. S1

Evaluation of the agreement between the retrieved uterine weight and the predicted weight using UroNav method



RUW: retrieved uterine weight, CI: confidence interval, LoA: limits of agreement

Supplementary Table S1.

Evaluation and comparison of the agreement between weights predicted using the NroNav method and the caliper technique and the retrieved uterine weight

	UroNav vs RUW	Caliper vs RUW
No. of cases	51	51
Mean difference (g)	-7.25	-58.56
SD of difference (g)	63.18	182.38
95% LoA lower (g)	-131.07	-416.03
95% LoA upper (g)	116.58	298.91
95% CI of mean difference (g)	−25.01 to 10.52	−109.86 to −7.27

RUW: retrieved uterine weight, SD: standard deviation, LoA: limits of agreement, CI: confidence interval

Supplementary Table S2.

Raw data required for the analysis of the 51 cases used in this study

cases	Uterine tumor			RUW (g)	Pridicted weight using UroNav (g)	Predicted volume of the uterus, cervix, and pedunculated uterine fibroids using the caliper technique												Total predicted weight using Caliper (g)
						uterus				cervix				pedunculated fibroid				
	Site	Number	Maximum diameter (cm)			D1*	D2**	D3***	π /6xD1xD2xD3 (cm³)	D1	D2	D3	π /6xD1xD2xD3 (cm³)	D1	D2	D3	π /6xD1xD2xD3 (cm³)	
1	im	2	58	400	417	81	84	88	311	20	31	35	12				0	323
2	im-ss	10<	81	705	702	90	127	98		38	26	38	20				0	603
3	pss, im	10<	185	1890	1800	135	85	185	1107				0	97	56	70	198	1305
4	im	2	79	377	357	96	71	92	326	41	38	44	36				0	362
5	ss-im	4	70	390	379	93	78	78	293	29	41	42	26				0	320
6	ss	1	104	481	453	107	80	98	439	41	23	37	18				0	458
7	cx	2	81	284	297	85	63	74	207	46	37	41	37				0	244
8	im	3	59	229	250	83	54	87	203				0				0	203
9	sm-im	2	55	255	220	66	73	77	192	46	35	37	31				0	223
10	im, sm	10<	76	570	578	101	92	104	503	40	36	42	32				0	534
11	im	1	141	1803	1674	142	126	148	1381	36	27	31	15				0	1396
12	im	1	124	990	1070	137	101	131	946	54	31	27	23				0	969
13	sm-im	10<	37	215	241	95	59	74	217				0				0	217
14	im	multiple	48	611	606	136	102	93	679				0				0	679
15	im	<5	32	258	267	96	73	78	286				0				0	286
16	pss, im	4	93	717	676	82	71	83	251	54	32	60	54	78	69	81	225	530
17	im	1	75	425	406	93	85	88	363	36	32	33	20				0	382
18	ss	2	63	315	299	93	83	74	296	40	33	47	32				0	328
19	pss, im	7	131	1467	1460	144	119	117	1052	49	32	32	26	97	76	65	250	1328
20	im-ss	1	104	940	810	126	94	111	688	41	35	26	19				0	707
21	pss, im	8	90	671	626	92	46	80	178				0	95	77	98	371	549
22	im	6	193	2520	2576	193	118	188	2226				0				0	2226
23	pss	7	124	590	827.68	61	56	94	168	40	30	40	25	109	95	131	712	905
24	pss	multiple	77	467	474.16	82	42	112	202	41	32	57	38	68	45	67	108	348
25	cx, pss	multiple	70	705	621.61	98	78	103	411	44	33	28	21	66	54	70	130	562
26	pss, im	multiple	57	311	360	89	66	84	256	37	36	36	25				0	281
27	pss, sm	multiple	58	675	610	95	83	109	444	45	43	35	35	57	56	60	99	578
28	im, ss	8	62	465	436	109	97	83	455	30	25	34	13				0	469
29	im, sm	multiple	60	568	618	105	103	114	641	40	40	46	38				0	679
30	im	multiple	105	1189	1052	134	109	124	945	51	35	24	22				0	967
31	pss, im	multiple	100	705	680	76	64	99	249	43	33	48	36	89	68	97	303	588
32	im	multiple	62	434	418	120	81	95	485				0				0	485
33	im	multiple	40	300	293	87	60	85	231	33	27	29	13				0	244
34	im	3	118	955	884	143	90	119	803	77	31	47	59				0	862
35	im	multiple	25	191	200	78	63	63	161	36	32	29	18				0	179
36	ss, im	4	57	290	293	114	66	62	242	48	30	43	33				0	274
37	im	2	81	592	550	129	93	98	613	52	38	37	38				0	651
38	im	<5	84	332	321	91	68	81	264	34	24	35	15				0	279
39	im	multiple	54	605	639	128	84	115	649	42	30	43	29				0	677
40	pss, im	1	213	3600	3463	216	81	215	1973	46	38	49	45	120	112	123	862	2881
41	ad	1	95	521	610	114	91	109	591	41	28	47	28				0	620
42	im, ad	3	57	306	278	82	63	101	270	39	34	59	40				0	310
43	im-ss	multiple	70	410	398	106	53	93	270	43	38	36	31				0	301
44	im	<5	22	243	240	98	51	70	184				0				0	184
45	pss, im	5	91	355	337	90	83	66	260	44	36	39	32				0	293
46	sm, ss, im	3	65	398	373	102	85	85	385	35	48	51	45				0	430
47	im-ss	2	105	660	694	116	105	109	694	51	33	47	41				0	735
48	pss	1	92	353	373	60	35	43	48	41	38	38	31	85	70	61	190	270
49	pss	2	117	434	489	101	72	65	245	43	30	31	20	97	57	51	146	412
50	sm-im	1	61	420	433	98	86	86	382	50	45	47	56				0	438
51	im	1	137	881	959	173	108	142	1384	43	37	32	26				0	1410

RUW: retrieved uterine weight, im: intramural uterine fibroid, sm: submucosal fibroid, ss: subserosal fibroid, pss: pedunculated subserosal fibroid: cx: cervical fibroid, ad: uterine adenomyosis

D1: the maximum length of the uterus on the plane with the largest area in the sagittal T2-weighted MRI image, D2: the maximum length D2 perpendicular to D1, D3: the maximum left-right length in the transverse plane

The volumes predicted using UroNav and the caliper technique were converted into predicted weights, with a specific gravity of 1.0.

In the caliper technique, we assumed the volume was elliptical and calculated it using the following formula: $V = D1 \times D2 \times D3 \times \pi/6$. Additionally, for the portions protruding from the main body of the uterus, we performed separate measurements and added the results calculated using the same method to the total.