Supplementary Information

Online Resource 1

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Factors Associated with Stone-Free Outcomes after Flexible Ureteroscopy for Lower Pole Renal Stones: A Comparative Analysis of Flexible and Navigable Suction and Conventional Ureteral Access Sheaths – AUSET collaboration

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Supplementary Table 1. Adjusted angle effects within sheath groups and angle-by-sheath interactions

Contrast (per 10-degree increase)	Adjusted odds ratio	95% CI	p value
Full cohort: IPA within FANS	0.90	0.64-1.28	0.567
Full cohort: IPA within conventional	1.09	0.85-1.39	0.509
Full cohort: IPA x sheath interaction	1.20	0.79-1.82	0.389
Full cohort: PSA within FANS	1.19	0.74-1.90	0.480
Full cohort: PSA within conventional	1.15	0.76-1.75	0.510
Full cohort: PSA x sheath interaction	0.97	0.51-1.83	0.928
Korea only: IPA withinFANS	0.73	0.41-1.29	0.274
Korea only: IPA within conventional	1.06	0.83-1.37	0.628
Korea only: IPA x sheath interaction	1.46	0.79-2.71	0.226
Korea only: PSA within FANS	0.75	0.32-1.74	0.502
Korea only: PSA within conventional	1.15	0.75-1.77	0.512

Contrast (per 10-degree increase)	Adjusted odds ratio	95% CI	p value
Korea only: PSA x sheath interaction	1.54	0.60-3.98	0.373

The full cohort included 214 fURS procedures in 176 patients; the Korea-only analysis included 140 fURS procedures in 116 patients. Models were adjusted for cumulative stone size, CT attenuation, age, sex, body mass index, sheath type, and centre where applicable. Standard errors were clustered by patients. The interaction odds ratio is the ratio of the angle odds ratio in the conventional group to that in the FANS group. CI, confidence interval; FANS, Flexible and navigable suction ureteral access sheaths.

Supplementary Table 2. Full coefficients from the adjusted angle-by-sheath interaction models

Model	Predictor	Adjusted odds ratio	95% CI	p value
IPA model	Intercept	0.56	0.03-10.70	0.703
IPA model	Cumulative stone size per 10-mm increase	0.53	0.38-0.75	<0.001
IPA model	CT attenuation per 100-HU increase	0.91	0.85-0.98	0.015
IPA model	Age per 10-year increase	1.08	0.85-1.36	0.534
IPA model	Male sex	0.83	0.39-1.78	0.635
IPA model	Body mass index per 5-kg/m^2 increase	1.53	0.95-2.46	0.084
IPA model	Conventional versus FANS at the centred angle	1.22	0.36-4.09	0.748
IPA model	KMUH versus SNUH	7.36	2.13-25.41	0.002
IPA model	IPA per 10-degree increase within FANS	0.90	0.64-1.28	0.567
IPA model	IPA-by-sheath interaction per 10-degree increase	1.20	0.79-1.82	0.389
PSA model	Intercept	0.52	0.03-9.69	0.662
PSA model	Cumulative stone size per 10-mm increase	0.53	0.39-0.74	<0.001
PSA model	CT attenuation per 100-HU increase	0.91	0.85-0.98	0.015
PSA model	Age per 10-year increase	1.07	0.85-1.34	0.588
PSA model	Male sex	0.85	0.41-1.79	0.676
PSA model	Body mass index per 5-kg/m^2 increase	1.51	0.93-2.46	0.096
PSA model	Conventional versus FANS at the centred angle	1.63	0.49-5.34	0.423

Model	Predictor	Adjusted odds ratio	95% CI	p value
PSA model	KMUH versus SNUH	8.47	2.37-30.21	<0.001
PSA model	PSA per 10-degree increase within FANS	1.19	0.74-1.90	0.480
PSA model	PSA-by-sheath interaction per 10-degree increase	0.97	0.51-1.83	0.928

Both models included 214 fURS procedures from 176 patients. Standard errors were clustered by patient. IPA and PSA were centred at 50 and 40 degrees, respectively. The sheath coefficient therefore compares conventional with FANS at the centred angle. Odds ratios for IPA and PSA are reported per 10-degree increase; cumulative stone size per 10-mm increase; CT attenuation per 100-HU increase; age per 10-year increase; and body mass index per 5-kg/m² increase. Interaction terms are ratios of the angle odds ratios in the conventional-sheath group to those in the FANS group. SNUH and FANS were the reference categories. CI, confidence interval; FANS, Flexible and navigable suction ureteral access sheaths; HU, Hounsfield units; IPA, infundibulopelvic angle; PSA, pelvic stone angle.