

LATERAL UKA SHOWED A LOWER RISK OF FAILURE COMPARED TO MEDIAL UKA IN THE RIPO REGISTRY

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AUTHOR DISCLOSURE

S.Z.: DePuy and Smith&Nephew consultant

OTHER AUTHORS: Nothing to disclose



INTRODUCTION

DOES LATERAL AND MEDIAL UKA HAVE THE SAME SURVIVORSHIP?

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KNEE ARTHROPLASTY



Lateral unicompartmental knee arthroplasty (UKA) showed a lower risk of failure compared to medial unicompartmental knee arthroplasty in the Register of Prosthetic Orthopedic Implants (RIPO)

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REGISTRY OF PROSTHETIC ORTHOPEDIC IMPLANTS (RIPO)

4 MILLION PATIENTS FROM EMILIA ROMAGNA (E.R.) SINCE 2000

IMPLANTS DATA:

- HIP
- KNEE
- SHOULDER



PRIMARY AND REVISION SURGERIES

MATERIALS AND METHODS



RIPO DATABASE SEARCH:

INCLUSION CRITERIA:

- ALL UKAs BETWEEN 2000 AND 2019
- UKAs PERFORMED OUTSIDE E.R. BUT RESIDENT IN E.R.

EXCLUSION CRITERIA:

- PATIENTS RESIDENT OUTSIDE E.R.
- SYMMETRIC IMPLANTS

ENDPOINT: REVISION OF ANY COMPONENT

SURVIVAL: UNREVISED UKAs AT THE LAST OBSERVATION (December 2019 or date of death)

MATERIALS AND METHODS

5571 UKAs IN 5172 PATIENTS

- LATERAL 365 (6.4%)
- MEDIAL 5215 (93.6%)

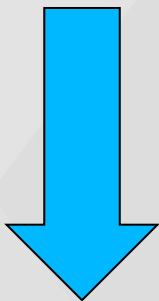
MOSTLY CEMENTED CoCr

Descriptive statistics	LATERAL	MEDIAL	Comparison between groups
N° of implants (%)	356 (6.4%)	5,215 (93.6%)	
N° of patients	343	4,829	
Side operated			
right (%)	244 (68.5%)	2,698 (51.7%)	Signif. Fisher test p<0.001
left (%)	112 (31.5%)	2,517 (48.3%)	
Gender			
female (%)	256 (71.9%)	3,389 (65.0%)	Signif. Fisher test p<0.01
male (%)	100 (28.1%)	1,826 (35.0%)	
Mean age (standard deviation) (range)	65.5 (SD 10,5) (24-90)	67.0 (SD 8,7) (28-92)	Signif. T-test p<0.01
Weight*			
average (standard dev.)	74.6 (11.5)	77.3 (13.0)	Signif. T-test p<0.001
% > 80 kg	24.3%	34.3%	
Diagnosis**	82.6%	82.3%	
Primary arthritis (%)	6.8%	8.6%	Signif. Chi-square test p<0.001
Deformity (%)	4.6%	6.1%	
Necrosis of the cond. (%)			
Post-traumatic & Sequelae of fracture (%)	4.6%	1.9%	
Other (%)	1.4%	1.1%	
Mobility of the insert			
fixed (%)	334 (93.8%)	4,176 (80.1%)	Signif. Fisher test p<0.001
mobile (%)	22 (6.2%)	1,039 (19.9%)	
Insert material			
Standard poly (%)	98.3	96.2	NS. Chi-square test p=0.09
Crosslinked poly (%)	1.7	2.8	
Cross.antiox. poly (%)	-	1.0	
Femur material			
crco (%)	75.3%	73.1%	NS. Chi-square test p=0.50
ceramicised zirconium (oxinium) (%)	24.7%	26.6%	
ceramicised cr-co (%)	-	0.4%	
Prosthesis fixation			
Cemented (%)	98.3%	97.6%	NS. Chi-square test p=0.61
Cementless (%)	1.4%	2.2%	
Hybrid (%)	0.3%	0.2%	

RESULTS

FAILURES:

- 13 LATERAL (3.7%) AT 6.3 YEARS MEAN FU
- 495 MEDIAL (9.5%) AT 6.7 YEARS MEAN FU



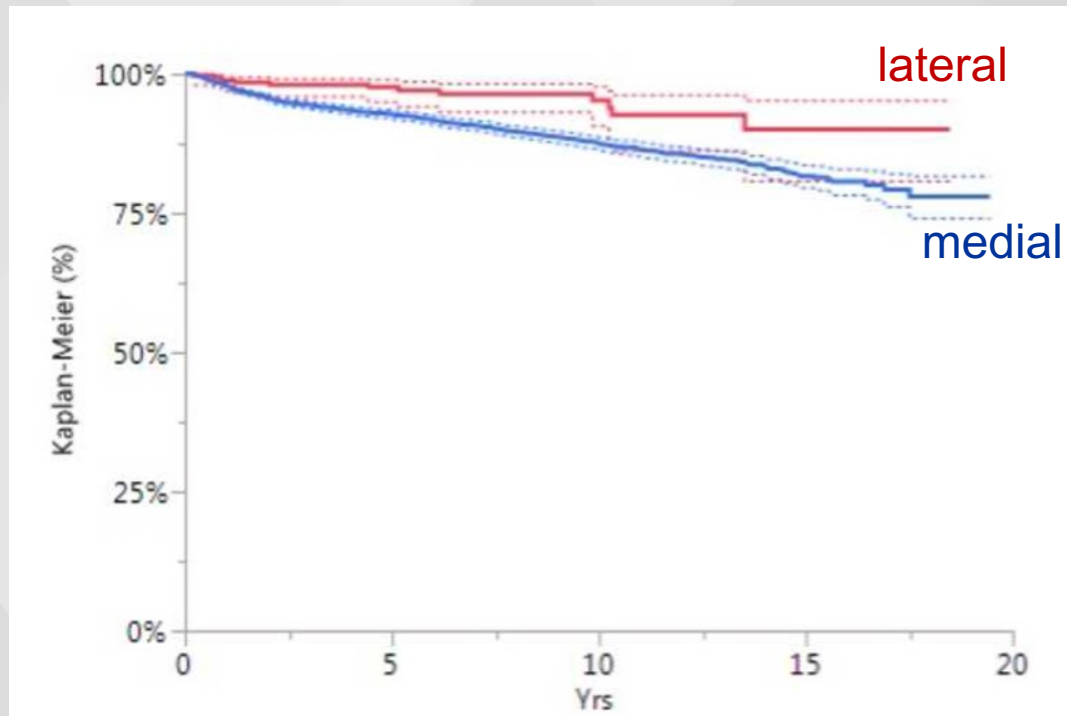
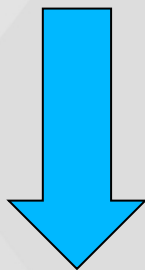
Condyle	% survival (Confidence interval 95%)					
	1Yr	3Yrs	5Yrs	7Yrs	10Yrs	13Yrs
LATERAL	98.8 (96.8-99.5)	98.1 (95.8-99.1)	97.6 (95.0-98.9)	96.4 (93.1-98.2)	95.2 (90.6-97.7)	92.7 (86.2-96.2)
<i>Prostheses at risk</i>	313	238	179	135	75	41
MEDIAL	97.9 (97.5-98.3)	94.5 (93.8-95.1)	92.7 (91.9-93.5)	90.8 (89.8-91.7)	87.5 (86.3-88.7)	84.8 (83.2-86.2)
<i>Prostheses at risk</i>	4,647	3,616	2,923	2,275	1,371	676

MEDIAL UKAs HAD A HIGHER RISK OF FAILURE
HR 2.6

RESULTS

SURVIVAL RATE AT 10Y:

- 95.2% LATERAL UKAs
- 87.5% MEDIAL UKAs



LATERAL IMPLANTS HAD BETTER SURVIVAL RATE

RESULTS

MAIN CAUSES OF REVISION:

- ASEPTIC LOOSENING
- PAIN WITHOUT LOOSENING
- SEPTIC LOOSENING

Cause of revision	Rate	LATERAL	% distribut. of failure causes	Rate	MEDIAL	% distribut. of failure causes
		Percentage			Percentage	
Total aseptic loosening	3/356	0.8	23.1	188/5,215	3.6	38.0
Pain without loosening	3/356	0.8	23.1	112/5,215	2.1	22.6
Tibial aseptic loosening	-	-	-	72/5,215	1.4	14.5
Septic loosening	-	-	-	32/5,215	0.6	6.5
Femoral aseptic loosening	-	-	-	16/5,215	0.3	3.2
Dislocation	-	-	-	12/5,215	0.2	2.4
Insert wear	-	-	-	12/5,215	0.2	2.4
Breakage of prosthesis	1/356	0.3	7.7	10/5,215	0.2	2.0
Periprosthetic bone fracture	2/356	0.6	15.4	4/5,215	0.1	0.8
Instability	-	-	-	2/5,215	0.0	0.4
Other	-	-	-	8/5,215	0.2	1.6
Unknown	4/356	1.1	30.8	27/5,215	0.5	5.5
Total	13/356	3.7	100.0	495/5,215	9.5	100.0

DISCUSSION

CONFLICTING RESULTS ON THE TOPIC:

- HIGHER SURVIVORSHIP AT A LONG TERM (MEAN FU 17Y) FOR LATERAL IMPLANTS

Deroche et al 2019 J Arthrop

- NO DIFFERENCE AMONG MEDIAL AND LATERAL UKAs

Han et al. 2020 PLoS One

- NO DIFFERENCE IN SURVIVORSHIP AND REVISION RATES AMONG MEDIAL AND LATERAL UKAs, BUT LOWER OVERALL SURVIVORSHIP IN REGISTRY STUDIES

Van der List et al 2019 Knee



DISCUSSION

SURGICAL TECHNIQUE

- MINIMAL TIBIAL CUT AND INTERNALLY ROTATED SAGITTAL CUT, TO AVOID IMPINGEMENT BETWEEN FEMORAL COMPONENT AND TIBIAL SPINE IN EXTENSION
- NEUTRAL TIBIAL SLOPE
- FEMORAL COMPONENT PLACED AS LATERAL AS POSSIBLE, TO AVOID FLEXION-EXTENSION IMPINGEMENT

CONCLUSIONS

LATERAL UKA IS A SAFE PROCEDURE

SURVIVAL RATE IS HIGHER THAN MEDIAL UKAs

**THE BEST CHOICE FOR ISOLATED LATERAL
KNEE OA AND INTACT LIGAMENTS**

REFERENCES

- Alesi D, Bordini B, Fratini S, Ancarani C, Agostinone P, Grassi A, Marcheggiani Muccioli GM, Viceconti M, Zaffagnini S. Lateral unicompartmental knee arthroplasty (UKA) showed a lower risk of failure compared to medial unicompartmental knee arthroplasty in the Register of Prosthetic Orthopedic Implants (RIPO). Arch Orthop Trauma Surg. 2022 Sep 25. doi: 10.1007/s00402-022-04631-x. Epub ahead of print. PMID: 36156122.

