

Supplementary article data

Radiographic severity of osteoarthritis preoperatively is related to the outcome of total hip arthroplasty, but not to the outcome of total knee arthroplasty

A prospective cohort study of 573 patients

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Table 1. Characteristics of patients undergoing THA and TKA with differences in severity of radiological damage. Comparison of patients with KL grade 0–2 and patients with KL grade 3–4 at preoperative assessment by means of Mann-Whitney U-test or chi-square test where appropriate

Variable	THA patients KL grade 0–2 (n = 77)	THA patients KL grade 3–4 (n = 225)	p-value	TKA patients KL grade 0–2 (n = 74)	TKA patients KL grade 3–4 (n = 197)	p-value
Female gender, n (%)	45 (58)	132 (59)	0.7	56 (76)	135 (69)	0.3
Mean age, years (SD)	66 (11)	68 (9)	0.3	67 (10)	67 (10)	0.7
0–55, n (%)	12 (16)	17 (8)	0.5	6 (8)	22 (11)	0.2
56–65, n (%)	23 (30)	71 (32)		23 (31)	61 (31)	
66–75, n (%)	29 (38)	93 (41)		31 (42)	74 (38)	
76–85+, n (%)	13 (17)	44 (20)		14 (19)	40 (20)	
Mean body mass index (SD)	28 (4.5)	27 (4.4)	0.06	30 (4.5)	30 (4.7)	0.5
Education level						
Low, n (%)	31 (40)	81 (36)		21 (68)	90 (46)	
Medium, n (%)	22 (29)	70 (31)		19 (26)	64 (33)	
High, n (%)	24 (31)	74 (33)		5 (7)	43 (22)	
Work status, working	18 (23)	54 (24)		13 (18)	44 (22)	
Mean preoperative HOOS or KOOS (SD)						
ADL (0–100)	46 (17)	44 (18)	0.6	49 (19)	49 (18)	0.9
Pain (0–100)	41 (18)	42 (19)	0.6	42 (18)	42 (16)	0.9
Quality of life (0–100)	36 (13)	35 (11)	0.3	36 (11)	35 (10)	0.6
Sport (0–100)	21 (19)	20 (20)	0.8	10 (16)	14 (16)	0.05
Symptoms (0–100)	38 (18)	37 (19)	0.5	45 (14)	45 (13)	0.9
Mean preoperative						
EQ5D score (SD) (0–1)	0.6 (0.2)	0.6 (0.3)	0.6	0.6 (0.3)	0.6 (0.2)	0.9
EQ5D VAS scale (SD) (0–100)	66 (17)	67 (18)	0.5	66 (23)	72 (16)	0.3
Oxford knee/hip score (SD)	24 (7)	25 (7)	0.5	25 (7)	26 (7)	0.5
Preoperative SF36 subscale (SD)						
Physical functioning	39 (18)	35 (19)	0.07	35 (19)	37 (18)	0.6
Role physical	32 (41)	31 (38)	0.8	40 (44)	40 (43)	0.9
Bodily pain	47 (17)	45 (20)	0.4	43 (22)	43 (18)	0.9
General health	63 (20)	66 (19)	0.2	69 (17)	69 (18)	0.9
Vitality	52 (20)	57 (21)	0.06	62 (21)	61 (20)	0.9
Social functioning	67 (24)	68 (24)	0.8	71 (28)	70 (27)	0.9
Role emotional	63 (45)	69 (41)	0.4	63 (44)	74 (38)	0.1
Mental health	72 (15)	75 (16)	0.1	76 (16)	77 (17)	0.3
SF36 “MCS” (SD) (0–100)	49 (10)	52 (10)	0.03	53 (10)	53 (10)	0.6
SF36 “PCS” (SD) (0–100)	41 (8)	40 (7)	0.2	41 (7)	40 (7)	0.4

Significance was assumed at $p < 0.05$.

HOOS: hip disability and osteoarthritis outcome score;

KOOS: knee disability and osteoarthritis outcome score;

EQ5D: Euroqol 5-dimensional questionnaire;

EQ5D-VAS scale: Euroqol 5-dimensional visual analog scale;

SF36: Short Form 36;

“MCS”: mental component summary scale;

“PCS”: physical component scale.

Table 2. Change scores of clinical outcome measures in 302 patients undergoing THA and 271 patients undergoing TKA, according to radiographic severity preoperatively

	Change score KL grade 0–2 mean (95% CI)	Change score KL grade 3–4 mean (95% CI)	Difference between change scores of KL 1–2 vs. KL 3–4		
			p-value ^a	B (95% CI) ^b	p-value ^b
THA, n	77	225			
Difference HOOS; mean					
ADL	36 (29–43)	42 (38–46)	0.1	-7.5 (-12 to -2.8)	0.002
Pain	42 (35–48)	46 (42–50)	0.4	-6.1 (-10 to -2.0)	0.004
Quality of life	18 (13–24)	22 (19–26)	0.06	-3.8 (-9.0 to 1.4)	0.2
Sport	38 (29–47)	46 (40–56)	0.3	-4.2 (-12 to 3.6)	0.3
Symptoms	35 (28–42)	46 (41–51)	0.02	-8.4 (-14 to -2.6)	0.004
Difference EQ5D score	0.2 (0.1–0.3)	0.3 (0.2–0.4)	0.03	-0.1 (-0.1 to 0.0)	0.05
Difference EQ5D VAS scale	12 (7–17)	14 (10–18)	0.5	-1.3 (-6.3 to 3.7)	0.6
Difference Oxford hip score	16 (13–18)	17 (15–19)	0.6	-2.0 (-4.2 to 0.2)	0.07
Difference SF36 subscale					
Physical functioning	26 (19–34)	37 (32–41)	0.03	-6.1 (-13 to 0.7)	0.08
Role physical	40 (29–54)	46 (37–54)	0.5	-8.4 (-19 to 2.2)	0.1
Bodily pain	28 (22–35)	40 (36–45)	0.006	-9.3 (-15 to -3.1)	0.004
General health	3 (-2–8)	3 (0.2–6)	0.9	-2.7 (-7.6 to 2.2)	0.3
Vitality	12 (7–17)	12 (9–16)	0.6	-2.9 (-7.6 to 1.8)	0.2
Social functioning	15 (9–22)	17 (13–22)	0.4	-3.8 (-9.7 to 2.2)	0.2
Role emotional	20 (5–34)	20 (13–27)	0.5	-5.1 (-14 to 3.5)	0.2
Mental health	7 (3–11)	6 (4–8)	0.6	-1.1 (-4.7 to 2.5)	0.5
Difference SF36 “MCS”	2.7 (-0.5–5.8)	1.2 (-0.6–2.7)	0.2	0.3 (-1.9 to 2.5)	0.8
Difference SF36 “PCS”	9.8 (7.1–12)	14 (12–15)	0.01	-2.9 (-5.2 to -7.2)	0.01
TKA, n	74	197			
Difference KOOS; mean					
ADL	33 (28–39)	36 (33–40)	0.6	-0.8 (-5.7 to 4.1)	0.7
Pain	40 (34–47)	44 (40–47)	0.7	-0.8 (-5.7 to 4.2)	0.8
Quality of life	14 (9–19)	20 (17–23)	0.3	-1.5 (-6.1 to 3.1)	0.5
Sport	8 (4–13)	10 (7–12)	0.6	-0.5 (-5.3 to 4.3)	0.8
Symptoms	28 (19–37)	39 (34–44)	0.1	-6.7 (-14 to 1.5)	0.1
Difference EQ5D score	0.3 (0.2–0.4)	0.2 (0.2–0.3)	0.1	0.0 (-0.0 to 0.1)	0.5
Difference EQ5D VAS scale	11 (4–18)	10 (7–12)	0.7	1.4 (-2.7 to 5.5)	0.5
Difference Oxford knee score	15 (13–8)	16 (15–17)	0.3	-0.6 (-2.5 to 1.3)	0.6
Difference SF36 subscale					
Physical functioning	32 (24–40)	32 (28–36)	0.2	-3.2 (-9.4 to 3.0)	0.3
Role physical	31 (18–45)	31 (21–40)	0.7	4.8 (-5.8 to 16)	0.4
Bodily pain	32 (23–41)	35 (31–40)	0.6	-5.4 (-5.4 to 7.5)	0.7
General health	-0.6 (-6–5)	1.7 (-1–5)	0.8	-1.1 (-5.7 to 3.5)	0.6
Vitality	6 (0.6–11)	9 (6–12)	0.9	0.5 (-4.1 to 5.2)	0.8
Social functioning	16 (8–25)	10 (6–16)	0.8	3.7 (-2.4 to 9.9)	0.3
Role emotional	12 (-1–24)	5 (-2–12)	0.1	5.9 (-3.9 to 16)	0.2
Mental health	3 (-3–8)	2 (-0.6–4.2)	0.4	1.8 (-2.5 to 6.1)	0.4
Difference SF36 “MCS”	-0.4 (-3.9; 17.8)	-1.9 (-3.3– -0.5)	0.4	1.5 (-1.1 to 4.0)	0.3
Difference SF36 “PCS”	11 (7.9–14)	12 (10–14)	0.2	-0.6 (-3.1 to 2.0)	0.7

^a Mann-Whitney. Significance was assumed at p < 0.05.
^b Multivariate analysis
For abbreviations, see Table 1