

Supplementary Material

10.1302/0301-620X.105B10.BJJ-2023-0115.R1

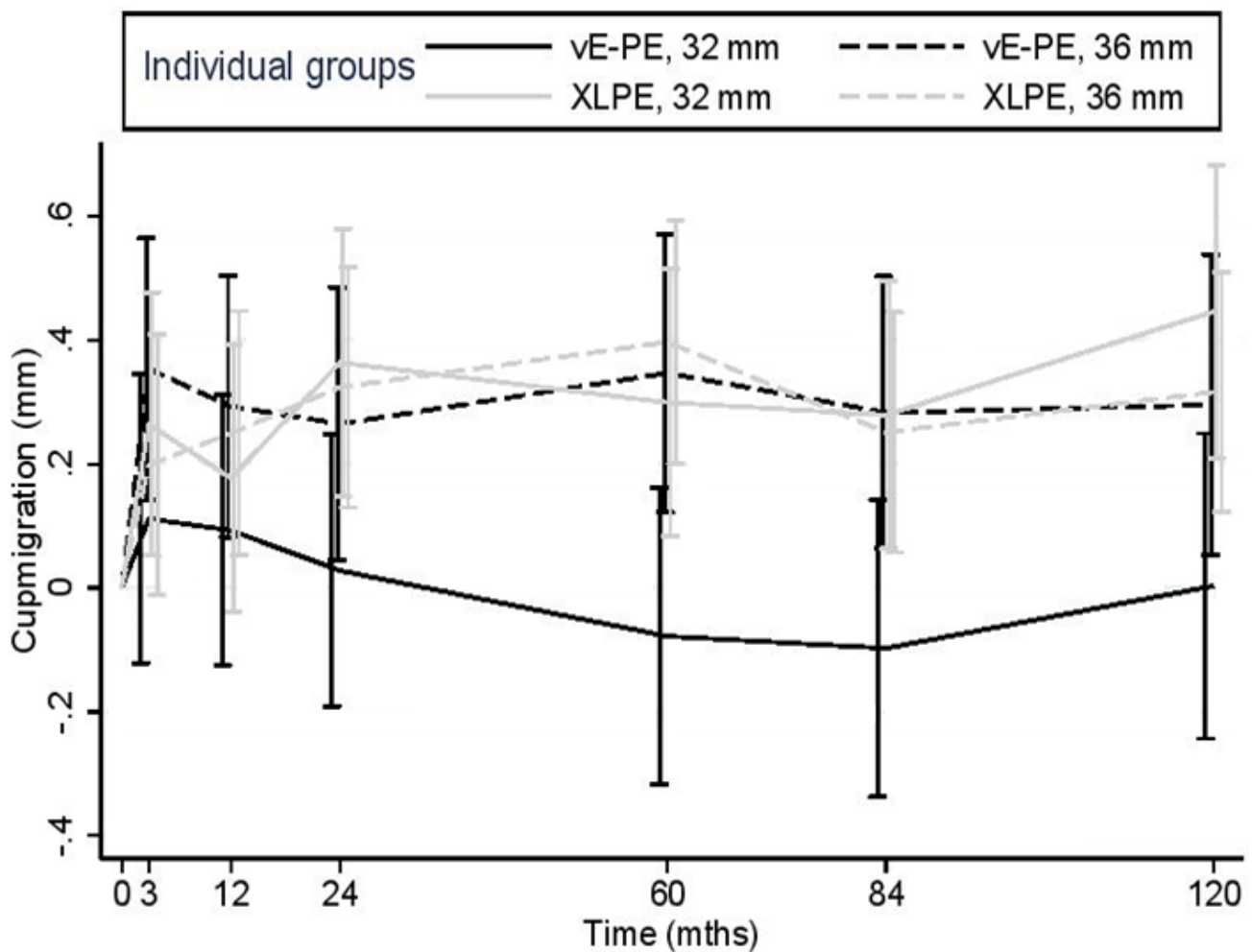


Fig a. Secondary intention-to-treat outcomes, shown as mean acetabular component migration with 95% confidence intervals according to individual intervention groups: vitamin E-diffused polyethylene liner (vE-PE) with a 32 mm head and a 36 mm head, and cross-linked polyethylene liner (XLPE) with a 32 mm head and a 36 mm head.

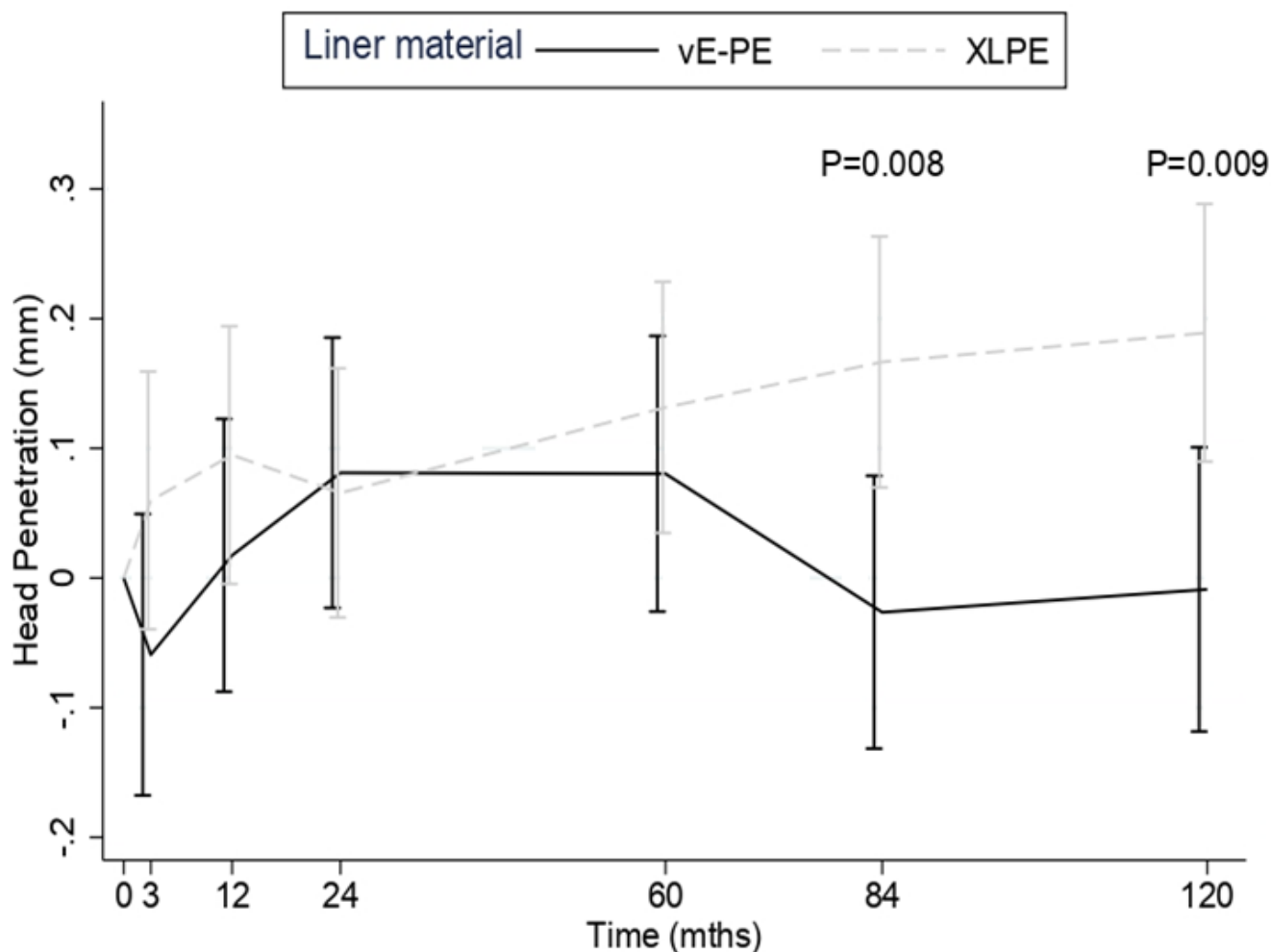


Fig b. Primary per-protocol outcome shown as mean femoral head penetration with 95% confidence intervals into the polyethylene liner. Head penetration of liner material with the vitamin E-diffused cross-linked polyethylene liner (vE-PE) and cross-linked polyethylene liner (XLPE).

Table i. Per-protocol outcomes of patients who underwent total hip arthroplasty, illustrated as within-group changes from baseline to ten years, and between-group difference at ten years, according to the pre-determined analysis plan.

Outcome	vE-PE (95% CI)	XLPE (95 % CI)	vE-PE vs XLPE (95 % CI)	p-value
Comparison between vE-PE and XLPE				
Total head penetration, mm	-0.009 (-0.123 to 0.105)	0.189 (0.045 to 0.333)	-0.198 (-0.346 to -0.050)	0.009
Head penetration rate, mm/yr				
0 to 3 mths	0.237 (-0.216 to 0.689)	-0.239 (-0.654 to 0.175)	0.476 (-0.137 to 1.089)	0.128
3 mths to 1 yr	-0.102 (-0.254 to 0.049)	-0.047 (-0.188 to 0.095)	-0.056 (-0.263 to 0.152)	0.600
1 to 2 yrs	-0.064 (-0.174 to 0.046)	0.029 (-0.074 to 0.133)	-0.093 (-0.244 to 0.058)	0.600
2 to 5 yrs	0.000 (-0.037 to 0.037)	-0.022 (-0.056 to 0.012)	0.022 (-0.028 to 0.072)	0.384

5 to 7 yrs	0.053 (-0.002 to 0.109)	-0.018 (-0.068 to 0.033)	0.071 (-0.005 to 0.147)	0.066
7 to 10 yrs	-0.006 (-0.044 to 0.032)	-0.008 (-0.042 to 0.027)	0.002 (-0.050 to 0.053)	0.951
Secondary outcomes				
Cup migration, mm	0.175 (0.015 to 0.335)	0.286 (0.087 to 0.485)	-0.111 (-0.325 to 0.102)	0.307
Comparison between 32 and 36 mm	32 mm (95% CI)	36 mm (95% CI)	32 mm vs 36 mm (95% CI)	
Total head penetration, mm	0.084 (-0.028 to 0.197)	0.114 (-0.033 to 0.261)	-0.030 (-0.179 to 0.119)	0.695
Head penetration rate, mm/yr				
0 to 3 mths	-0.021 (-0.471 to 0.429)	-0.022 (-0.442 to 0.398)	0.001 (-0.615 to 0.617)	0.997
3 mths to 1 yr	-0.057 (-0.211 to 0.096)	-0.083 (-0.225 to 0.058)	0.026 (-0.183 to 0.235)	0.807
1 to 2 yrs	0.057 (-0.056 to 0.169)	-0.074 (-0.176 to 0.029)	0.065 (-0.011 to 0.141)	0.807
2 to 5 yrs	-0.042 (-0.079 to -0.005)	0.014 (-0.020 to 0.048)	-0.056 (-0.106 to -0.006)	0.029
5 to 7 yrs	-0.001 (-0.057 to 0.055)	0.028 (-0.023 to 0.080)	-0.029 (-0.105 to 0.047)	0.449
7 to 10 yrs	0.012 (-0.026 to 0.049)	-0.024 (-0.059 to 0.012)	0.035 (-0.017 to 0.087)	0.183
Secondary outcomes				
Cup migration	0.224 (0.065 to 0.382)	0.244 (0.045 to 0.444)	-0.021 (-0.234 to 0.192)	0.849
Harris Hip Score	31 (24 to 38)	39 (31 to 46)	-8 (-15 to -0)	0.041
UCLA Activity Score	0.8 (-0.1 to 1.6)	2.2 (1.2 to 3.1)	-1.4 (-2.4 to -0.4)	0.005
EQ-5D Health State	0.17 (0.11 to 0.22)	0.18 (0.11 to 0.24)	-0.01 (-0.08 to 0.05)	0.706
EQ-5D VAS	14 (6 to 22)	15 (6 to 25)	-1 (-10 to 8)	0.780
SF-36 PCS	10 (7 to 13)	12 (8 to 16)	-2 (-6 to 2)	0.374
SF-36 MCS	1 (-2 to 4)	4 (0 to 8)	-3 (-7 to 1)	0.136

CI, confidence interval; EQ-5D, EuroQol five-dimension questionnaire; MCS, mental component score; PCS, physical component score; SF-36, 36-Item Short-Form Health Survey questionnaire; UCLA, University of California, Los Angeles; VAS, visual analogue scale; vE-PE, vitamin E-diffused polyethylene; XLPE, cross-linked polyethylene.