



Eversion CEA as done in Innsbruck



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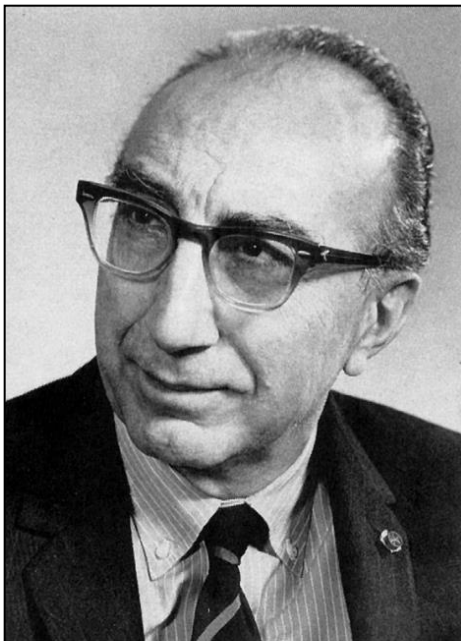
History of CEA & patchplasty and eversion EA

Surgical Considerations of Occlusive Disease of Innominate,
Carotid, Subclavian, and Vertebral Arteries *

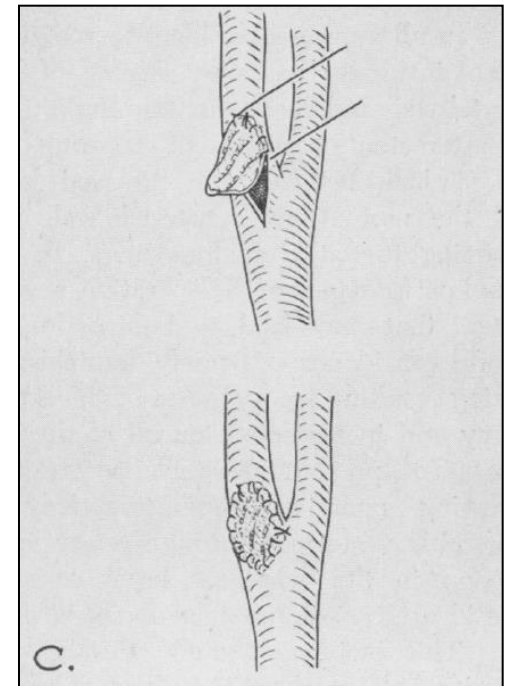
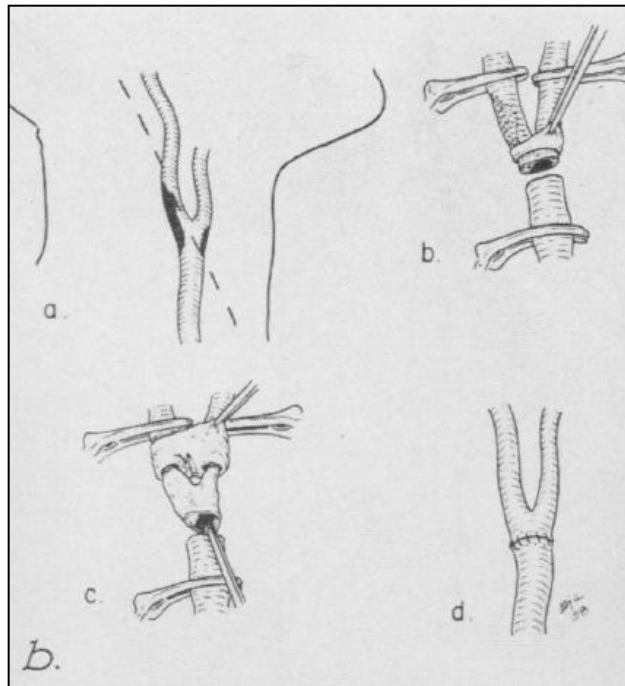
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REVIEW

Editor's Choice — An Updated Systematic Review and Meta-analysis of Outcomes Following Eversion vs. Conventional Carotid Endarterectomy in Randomised Controlled Trials and Observational Studies

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Table 4. Comparison of 30 day outcomes between eversion carotid endarterectomy (eCEA) vs. conventional carotid endarterectomy (cCEA) ^a using randomised controlled trial (RCT) data only.

Outcome	Total number of patients		Weighted proportions		OR (95% CI)	<i>p</i>	<i>I</i> ²
	eCEA	cCEA	eCEA	cCEA			
30 day stroke	1157	1249	1.72%	2.67%	0.57 (0.31–1.04)	.07	45.3%
30 day death	1157	1249	1.11%	1.70%	0.75 (0.34–1.70)	.50	38.1%
MI	1089	1181	0.79%	0.69%	1.13 (0.39–3.25)	.81	0%
30 day stroke/death	1157	1249	2.66%	4.32%	0.37 (0.11–1.28)	.12	65.9%
30 day stroke/death/MI	1089	1181	3.32%	5.62%	0.51 (0.18–1.46)	.21	68.5%
Recurrent stenosis	951	939	1.98%	4.54%	0.40 (0.23–0.69)	.001	0%
Cranial nerve injury	1157	1249	3.89%	6.66%	0.68 (0.45–1.01)	.06	49.5%
Neck haematoma	952	1053	3.88%	6.19%	0.69 (0.27–1.77)	.44	66.7%

MI = myocardial infarction.

All significant *p* values are marked in bold.

^a Conventional CEA included patients undergoing either primary closure or patch closure of the arteriotomy.

Table 6. Comparison of outcomes between eversion CEA (eCEA) vs. conventional CEA (cCEA)^a using combined data from randomised controlled trials and observational studies.

Outcome	Total meta-analysis						Sensitivity analysis (involving only those observational studies with NOS >5) ^b					
	Total number of patients		Weighted proportions		OR (95% CI)	<i>p</i>	<i>I</i> ²	Weighted proportions		OR (95% CI) ^b	<i>p</i>	<i>I</i> ²
	eCEA	cCEA	eCEA	cCEA				eCEA	cCEA			
30 day stroke	15,817	28,632	1.38%	2.33%	0.63 (0.46–0.86)	.004	40.7%	1.49%	2.99%	0.61 (0.51–0.86)	<.0001	36.1%
30 day death	13,672	11,817	0.86%	1.52%	0.55 (0.43–0.72)	<.0001	0%	0.86%	1.36%	0.60 (0.45–0.79)	<.0001	0.0%
MI	8690	20,638	0.95%	0.91%	1.04 (0.75–1.45)	.82	0%	0.89%	0.84%	1.09 (0.66–1.82)	.72	0%
30 day stroke/death	13,452	11,477	2.35%	4.3%	0.58 (0.50–0.67)	<.0001	48.3%	2.37%	4.22%	0.59 (0.42–0.82)	<.0001	48.3%
30 day stroke/death/MI	6325	3483	3.19%	4.74%	0.68 (0.45–1.02)	.065	50.9%	2.27%	5.01%	0.33 (0.13–0.86)	.17	32.5%
Recurrent stenosis	7246	4219	2.02%	4.71%	0.45 (0.26–0.78)	.004	72.5%	2.01%	4.15%	0.53 (0.29–0.95)	.033	72.5%
Cranial nerve injury	14,473	27,247	2.77%	4.82%	0.69 (0.40–1.22)	.205	90.4%	2.31%	4.29%	0.63 (0.32–1.24)	.178	36.3%
Neck haematoma	9091	21,075	3.04%	2.49%	1.27 (1.01–1.58)	.037	43.2%	3.30%	2.97%	1.13 (0.86–1.49)	.037	44.3%

eCEA = eversion carotid endarterectomy; cCEA = conventional carotid endarterectomy; NOS = Newcastle Ottawa scale; MI = myocardial infarction.

All significant *p* values are marked in bold.

^a Conventional CEA included patients undergoing either primary closure or patch closure of the arteriotomy.

^b Sensitivity analysis (which included only those observational studies with a NOS score >5). See Methods for details.

Table 7. Comparison of 30 day outcomes between **eversion CEA (eCEA) vs. patched CEA (pCEA)** using data from randomised controlled trials and observational studies.

Outcome	Total meta-analysis						Sensitivity analysis (involving only those observational studies with NOS>5) ^a					
	Total number of patients		Weighted proportions		OR (95% CI)	p	I ²	Weighted proportions		OR (95% CI) ^a	p	I ²
	eCEA	pCEA	eCEA	pCEA				eCEA	pCEA			
30 day stroke	7565	8584	1.38%	1.93%	0.71 (0.37–1.36)	.30	58.7%	1.41%	1.85%	0.81 (0.39–1.68)	.57	48.3%
30 day death	7785	8924	0.86%	1.12%	0.64 (0.35–1.18)	.15	68.7%	0.73%	0.77%	0.95 (0.64–1.42)	.90	0%
MI	371	365	0.77%	0.89%	0.98 (0.17–5.69)	.98	0%	0.77%	0.89%	0.98 (0.17–5.69)	.98	0%
30 day stroke/death	7565	8584	2.35%	3.31%	0.64 (0.35–1.18)	.15	71.3%	2.14%	3.44%	0.57 (0.28–1.18)	.13	71.8%
30 day stroke/death/MI	371	365	3.19%	5.42%	— ^b	— ^b	— ^b	3.19%	5.42%	— ^b	— ^b	— ^b
Recurrent stenosis	1220	1268	2.02%	6.21%	0.68 (0.24–1.95)	.47	84.6%	5.15%	5.46%	0.84 (0.27–2.66)	.77	79.9%
Cranial nerve injury	6227	7072	4.82%	7.18%	0.50 (0.20–1.28)	.15	89.9%	2.32%	6.19%	0.37 (0.19–0.74)	.005	91%
Neck haematoma	932	963	3.04%	3.62%	0.53 (0.30–0.95)	.03	0%	4.78%	10.25%	0.43 (0.20–0.90)	.02	0.0%

eCEA = eversion carotid endarterectomy; pCEA = patched carotid endarterectomy; NOS = Newcastle Ottawa scale; MI = myocardial infarction.

^a Sensitivity analysis (which included only those observational studies with a NOS score >5). See Methods for details.

^b The small number of patients with available data meant that calculations were deemed inaccurate.

