



Eversion Carotid Endarterectomy with Absorbable Suture

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Short Communication

Major problem of the late results in arterial repair is the problem of remote restenosis. One of the ways to diminish the rate of late restenosing is making use of absorbable suture due to decrease of suture perifocal reaction and anastomotic compliance optimization by absence of non-absorbable suture rigid ring. The first clinical application of absorbable polydioxanone suture was made by Tuchman A. and Dinstl K. at 1984; they performed 3 fem pop autovenous bypasses without any short-term complications. Ikeda S. et al., 1993, were the first to use polydioxanone in carotid surgery (7 cases of extra-intra micro anastomosis formation) and demonstrated 0 rate of false aneurysms and 14% (1 case) rate of restenoses during 3 months to 12 months. Our clinic was the first in Russia (2003) in use of polydioxanone in carotid surgery (9 eversion endarterectomies and 2 redressments of kinked internal carotid artery). Our 6-months results included 1 thrombosis (9%) and 0 rate of false aneurysms or restenosis.

We had performed 404 carotid eversion endarterectomies with polypropylene (PPL) 6-0 suture (236 patients) and polydioxanone (PDS) suture (168 patients) from January 2002 to December 2007. Initial clinical data were similar in both groups except gender and plaque types distribution—male/female 61%/39% for PPL group and 73%/27% for PDS group ($p=0.04$), stable/unstable 24%/76% for PPL group and 37%/63% for PDS group ($p=0.02$). Mean time of surveillance was 61 ± 40 months at PPL group and 60 ± 38 months at PDS group (NS). Altogether long-term results were traced in 135 PPL patients (57%) and 121 PDS patients (72%). Rates of late restenoses were 8.9% and 8.3% properly (NS).

Then we compared late results in PDS subgroups (79 patients with 5-0 suture and 42 patients with 6-0 suture). Initial clinical data were similar in both subgroups. Mean time of surveillance was 53 ± 37 months at PDS 5-0 subgroup and 70 ± 37 months at PDS 6-0 subgroup ($p=0.02$). Rates of late restenoses were 12.6% and 0 accordingly ($p=0.02$).

Finally we compared late results in PPL group (135 patients) and PDS 6-0 subgroup (42 patients). Initial clinical data were similar except plaque types distribution—stable/unstable 24%/76% for PPL group and 48%/52% for PDS 6-0 subgroup ($p=0.003$). Mean time of surveillance was 61 ± 40 months at PPL group and 70 ± 37 months at PDS 6-0 subgroup (NS). Rates of late restenoses were 8.9% and 0 accordingly ($p=0.04$).

Our results allow assuming that use of polydioxanone 6-0 suture in autologous carotid repair may reduce late restenotic rate compared to conventional polypropylene suture.

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