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22. SURGICAL RECONSTRUCTION of VERTEBRAL BASILAR ARTERY FLOW – Twenty Year Experience with 184 Cases

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184 patients underwent 201 surgical procedures to improve vertebral basilar blood flow in the past 20 years.

**Presenting symptoms** included residual hemiplegia 11; monoplegia, 31; numbness of hand 37, leg 10 or face 11; limb pain 22; diplopia 24; blurred vision 1; hemianopsia 4; quadrant defect 2; dysarthria 47; aphasia 24, hearing loss 10; hoarseness 1; tinnitus 13; vertigo 140; ataxia 90; syncope 93; nystagmus 16; memory lapse 28; convulsions 4; headache 43; dysphasia 11; nausea 12 and coma 9.

**Pre-operative arterial diagnosis** was based upon the use of angiography of the head and neck with multiple rotational views employing the Seldinger technique, radioisotope brain scan and non-invasive doppler study. The surgical procedure was dependent upon the angiographic abnormalities noted on angiography and the anatomical findings at surgery.

**Fifty six (28%) of the 201 surgical procedures involved reconstruction of the innominate or the subclavian arteries.** The procedures included reconstruction of the innominate artery (16), bypass to the subclavian artery, vein or dacron, (16), endarterectomy of the innominate (1) or subclavian (17) arteries, reconstruction of the subclavian artery by dacron prosthesis (3) and subclavian to common carotid anastomosis in 4 cases.

**One hundred forty nine (72%) procedures directly involved the vertebral artery.** These included laminectomy with decompression of the vertebral artery (21), endarterectomy of the vertebral artery (49), correction of rotational extraluminal obstruction and redundancy (51), segmental resection and end to end suture (5), direct vertebral artery anastomosis (15) to the thyrocervical trunk (2), the common carotid (12), the external carotid (1), and vein graft to the vertebral artery from the external carotid (1) and the subclavian artery (2). The vertebral artery was ligated on two (2) occasions.

**Postoperative neurological symptoms** were the residuals of preoperative symptoms: vertigo 13%/ ataxia 11%, nystagmus 24%. Disturbances of speech and hearing included dysarthria 26%, aphasia 18%, tinnitus 38% and hearing loss 50%. Postoperative bruits were noted in 15%.