

Selected Abstracts

Pages with reference to book, From 71 To 73

Hemodialysis-Arteriovenous Fistula Distal to the Wrist (Hamodialyse-die artrio-venose Fistel distal des Handgelenkes). F. Harder, P. Tondelli and A.F. Haenel. Chirurg, 1977, 48:719.

The advantages of a distal arteriovenous fistula are that a greater length of vessel is available for puncture and a good segment of vein will lie in an area with minimal subcutaneous fat. The options for a more proximal fistula remain. Success depends upon creation of the fistula early enough to allow it to mature, easily recognizable branches of the cephalic vein between the first and second metacarpals, a palpable arterial pulse in the snuff box area and the use of micro techniques and magnification. Over three years, 26 patients had shunts created by two surgeons. Anastomoses were side-to-side and 6 mm long. An oval defect of one-fourth of the arterial circumference was created and the suture material used was 7-0 monofilament. Twenty-one of the shunts were utilized easily and were considered good results. Five required corrective operations. The average interval between creation of the shunt and dialysis was nine weeks. Neither symptoms of steal nor digital edema were noted with this technique.

Frank J. Scarpa

Autogenous Venous Grafts Ten Years Later. James A. DeWeese and Charles G. Rob. Surgery, 1977, 82:775.

A ten year update of a study of 103 patients with 113 autogenous saphenous vein-femoral-popliteal bypass grafts was made. The series was previously presented at the five year level.

Indications for operation were intermittent claudication in 46 extremities, rest pain in 26 extremities and gangrene in 41 extremities. Fifty-one of the grafts ran from the common femoral artery to the popliteal artery below the level of the knee joint. Forty-three grafts went from the common femoral artery to the popliteal artery above the knee joint and 19 grafts went from the superficial femoral artery to the popliteal artery below the knee joint. Patients were reevaluated at three to 13 month intervals and arteriograms were performed when necessary. All the patients in the present report were evaluated ten or more years after the operation or were known to be dead.

Thirty-nine arteriograms were performed on extremities with patent grafts, of which 18 were obtained five or more years after operation and eight were obtained ten or more years after operation. At the end of the ten year period, 28 per cent of the patients, 29 remained alive. As in most other series, the majority of deaths were the result of arteriosclerosis. Mortality seemed to vary directly with the severity of indication for operation, that is, 48 per cent of patients with claudication, 80 per cent of patients with rest pain and 95 per cent of patients with gangrene. Mortality also seemed to increase with increasing age.

The actual patency rate was 76 per cent for grafts at risk at the time of patient discharge from the hospital, at five years 59 per cent, and at ten years, 38 per cent. Forty-five per cent of the grafts at risk at ten years were patent when the operation was for claudication, only 20 per cent of the grafts at risk were patent when the operation was for rest pain and no grafts remained patent at ten years when the operation was for gangrene. Bypass from the common femoral artery to below the knee joint resulted in five and ten year patency rates of 58 per cent and 25 per cent, respectively. Shorter grafts from the common femoral artery to above the knee or from the superficial femoral artery to the distal popliteal artery resulted in five and ten year patency rates of 65 and 43 per cent, respectively. The patency rate in grafts with two or three vessel runoff was 41 per cent at ten years. If the runoff was poorer than this, the patency rate was 29 per cent.

Richard M. Margules

Predictive Value of Renin Determinations in Renal Artery Stenosis. Morton H. Maxwell, Leonard S. Marks, Andrei N. Lupu and others. F.A.M.A., 1977, 238:2617.

Sixty-six successive patients with arterio-graphic evidence of unilateral stenosis of the main renal artery, without other renal or renovascular lesions, were studied in an attempt to evaluate the prognostic accuracy of levels of renal vein renin and peripheral renin. The operations were designed to ameliorate the hypertension, and a one year postoperative follow-up study was designed. The patient selection of operation was independent of results of renin level tests. The average blood pressure in the patients was 186/112 mm. Hg and the average duration of hypertension was seven years.

The decision to operate upon each patient was made on the basis of all available clinical data, which included results of rapid sequence intravenous pyelograms, radioisotope renograms, arteriograms and, occasionally, divided kidney function tests. Renal vein renin data were not available until after the decision regarding operative intervention was made. Nephrectomy was performed in 30 patients, and a revascularizing procedure was done in 36 patients. Of the 66 patients with renovascular disease, 57, 86 per cent, were cured or their conditions improved by operation. The nine patients whose operations failed had renovascular disease, but did not have renovascular hypertension at the time of the determinations of renin levels. These patients were slightly older than the other patients and had a longer duration of hypertension, 11 years, than those who improved.

Fifty-three per cent of patients with confirmed renovascular hypertension had a renal vein renin level of less than 2.0, which was within the 95 per cent confidence limit for the control group of 82 patients with essential hypertension. Thirty-four patients with clearly lateralizing renin data, that is, a renal vein renin ratio greater than 1.5, were benefited by the operation. However, an additional 23 patients were also benefited by-operation, yet had no lateralizing renal vein ratios. The rigorously abnormal renal vein renin data correctly predicted operative benefit in more than 90 per cent of these patients, but a substantial portion of patients with normal renin criteria were benefited as well. No proposed scheme for the analysis of renin level data detected more than 57 per cent of those patients with renovascular hypertension. There was found to be a high degree of correlation between the renal vein renin ratio and the contralateral to caval vein renin ratios.

Edward A. Daiko

Report on the Intraoperative Use of Doppler Ultrasound (Erfahrungsbericht über den intraoperativen Einsatz der Ultraschall-Dopplersonde) K. Henning and D. Franke. Chirurg, 1977, 48:708.

The intraoperative use of Doppler ultrasound in 218 patients over a three-year period is detailed. Two probes sterilized by gas were connected to a sterile cable, and both a microphone and a chart recorder were used.

The technique is believed to be of use in situations where anatomic relationships are unclear as in determining blood supply to vascular tumors or, occasionally, in delineating mesenteric circulation. In trauma of the extremities, especially crush injuries, intraoperative Doppler ultrasound proved useful. The technique was of limited value in operations upon the veins. Partial venous occlusions could not be demonstrated clearly. The ultrasound did prove useful in determining the site of clamp placement in ileofemoral thrombectomy. In arterial procedures, the technique was used as an adjunct in deciding whether or not to perform intraoperative angiography. The flow in inlying shunts was confirmed during carotid procedures.

The limitations of the technique are that stenoses are better demonstrated by angiography and that flow volume or perfusion of an organ cannot be determined. Signals from adjacent vessels may be picked up and misinterpreted.

Frank J. Scarpa

The Atherosclerotic Popliteal Aneurysm; Report of Diagnosis and Treatment in Twenty-Six

Cases. William C. Tompkins, Jr. A.D. Smith, Jr. Herbert B. Wren and Robert M. Bransford. Am. f. Surg. 1977, 134:813.

Experience is reported with 26 popliteal aneurysms in 18 patients over an eight year period from 1968 to 1976. Eight of the patients, 45 per cent, had bilateral aneurysms and six, 33 per cent, had extrapopliteal aneurysms. The site of extrapopliteal aneurysms was the abdominal aorta in five patients, the iliac artery in three, the femoral artery in three and the thoracic aorta in one. Rest pain, or gangrene, or both, secondary to thrombosis of the aneurysms, was the most common presenting symptom. Eleven reconstructive procedures were carried out with good results and no mortality.

It was concluded that all popliteal aneurysms should be repaired when found, regardless of size, and because of the high incidence of extrapopliteal aneurysms, these patients should undergo a total search for aneurysms in other sites. The aneurysms may be excised with an end-to-end anastomosis using a graft or simply ligated and by passed in a routine bypass grafting procedure. Long term follow-up studies are recommended because of propensity for aneurysms in the residual popliteal artery and to rule out formation of extrapopliteal aneurysms.

Moshe Haimov

Reserpine Treatment of Raynaud's Disease. Birgitta Arneklo Nobin, Steen Levin Nielsen, Bo Eklov and Niels A. Lassen. Ann. Surg., 1978, 187:12.

The response of Raynaud's disease to the intra-arterial administration of reserpine was investigated. Six female patients, after being appropriately evaluated for other causes of arterial pathology, were studied before and after administration of 0.5 mgm. of reserpine intra-arterially. The measurements evaluated were finger systolic blood pressure using a volumetric cuff and response to digital cooling using a similar device. In addition, a vessel closing temperature was established, at which point there was no further arterial blood flow. All patients demonstrated immediate responses to intra-arterial injection of reserpine, with arms becoming warm, red and somewhat edematous within about two hours after injection,

Clinical results were then assessed daily. In two patients the clinical effect lasted for only two days. In the other five, effects lasted six to eight days and, in a single patient who had only minor complaints, there was relatively no recurrence. The local cooling test also revealed an initial improvement after injection of reserpine with a gradual deterioration over the following week. There were, therefore, beneficial effects from intra arterial injection of reserpine in humans. However, these effects were short lived and any long term benefits would be caused by healing of ischemic lesions. Treatment of Raynaud's disease with intraarterial administration of reserpine should be reserved for patients in whom amputation or sympathectomy, or both, might be postponed.

Richard M. Margules

Realistic Expectation for Patients Having Lower Extremity Bypass Surgery for Limb Salvage. Joseph A. O'Donnell, Bruce J. Brener, Donald I. Brief and others. Arch. Surg., 1977, 112:1356.

Results of procedures for salvage of a limb for the lower extremities are summarized. Seventy-nine procedures were performed, including fem-oral-popliteal-saphcnous vein grafts, femoral-popliteal Dacron, polyester, grafts, femoral-popliteal composite grafts and femoral-tibial grafts. The over-all graft patency from three to five years was 48 per cent. The highest patency rates were among patients who underwent femoral-popliteal-saphenous vein graft. The poorest result was in patient who had a femoral-popliteal Dacron graft. It was also clearly shown that a poor distal runoff, female sex and presence of diabetes were all associated with poor patency and patient survival. The age of the patient did not have any definite relation to either patency or survival.

S.K. Gandhi