PERIPHERAL ANEURYSM Popliteal aneurysm

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Popliteal artery aneurysm accounts for 70% of all peripheral aneurysms classically diagnosed in men in their seventh decade of life; 50% are bilateral. Examination of the abdominal aorta is indicated if a popliteal aneurysm is found because one-third are accompanied by aortic dilatation. Popliteal aneurysms present as a swelling behind the knee or with symptoms caused by complications, such as severe ischaemia following throm bosis or distal ischaemia as a result of emboli. The diagnosis is usually confirmed with DUS but assessment of the distal vessels (with CT , MRA or DSA) is important prior to repair if the foot pulses are diminished or absent. An asymptomatic aneurysm greater than 20 /uni00A0 mm in diameter should be considered for elective r epair to prevent future complications. Some surgeons would also o ff er elective repair for smaller diameters if the sac contains thrombus because of a perceived increased risk of distal embolisation. All symptomatic popliteal aneurysms, including those in which single crural vessel embolisation has occurred, should be considered for repair. Two techniques for surgical repair may be used: exclusion bypass and inlay repair. An exclusion bypass involves a medial approach to the above- and below-knee popliteal arteries, ligation of the aneurysm and restoration of flow to the foot with a bypass graft using saphenous vein. Many surgeons favour this approach because the anatomy is similar to that for a femoropopliteal bypass and therefore familiar. An inlay graft repair is performed through a posterior approach and has the benefits of allowing free ligation of feeding geniculate branches as well as aneurysmectomy in patients with neurovascular compression. However, the posterior approach limits exposure of the superficial femoral and crural arteries and should only be used when the popliteal aneurysm is confined to the popliteal fossa. In the acute situation, the presentation is usually with aneurysms very rarely rupture. Aneurysm thrombosis tends to occur following a period of chronic embolisation to the run- o ff vessels. As successive run-o ff vessels occlude over time the outflow to the popliteal artery diminishes, resulting in reduced flow rates in the aneurysm sac and eventual thrombosis. In such cases surgery is often unsuccessful because the outflow for the graft reconstruction is chronically diseased. Attempts to re-establish a patent run-o ff vessel with embolectomy and intra-arterial thrombolysis may be successful, but the limb loss rate is high (50%).

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