INTRAVASCULAR DELIVERABLE STENT FOR REINFORCEMENT OF VASCULAR ABNORMALITIES

Abstract of the Disclosure

A catheter deliverable stent/graft especially designed to be used in a minimally invasive surgical procedure for treating a variety of vascular conditions such as aneurysms, stenotic lesions and saphenous vein grafts, comprises an innermost tubular structure and at least one further tubular member in coaxial arrangement. In one embodiment, the innermost tubular structure is of a length (L_1) and is formed by braiding a relatively few strands of highly elastic metallic alloy. The pick and pitch of the braid are such as to provide relative large fenestrations in the tubular wall that permit blood flow through the wall and provide the primary radial support structure. A portion of the innermost tubular structure of a length L_1 is surrounded by a further braided tubular structure having relatively many strands that substantially inhibit blood flow through the fenestrations of the innermost tubular structure. The composite structure can be stretched to reduce the outer diameter of the stent/graft, allowing it to be drawn into a lumen of a delivery catheter. The catheter can then be advanced through the vascular system to the site of treatment and then released, allowing it to self-expand against the vessel wall. Various optional embodiments are disclosed that allow one skilled in the art to tailor the design to the specific application.

Figure 1