Claims

1. Membrane implant for the treatment of vascular malformations, said implant being implantable by endovascular methods into the vessel to be treated, wherein the membrane implant consists~~ing~~ of an expandable stent (4) and a membrane (2, 3, 5, 11) connected with the stent (4), with said membrane (2, 3, 5, 11) covering the meshes of the stent at least in a central region, characterized in that the membrane (2, 3, 5, 11) is provided in the form of a non-woven fabric comprising plastic fibrils, wherein the membrane (2, 3, 5, 11) ~~forming~~ forms a bond with the stent (4), and at least partially, ~~being~~ is of porous design and the membrane has an outer layer facing the wall of the vessel, said layer having a sponge-like structure, in that pore volume is reduced under pressure.

2. Membrane implant according to claim 1, characterized in that the membrane (2, 3, 5, 11) is multi-layers, in particular, of two- three-layer design.

3. Membrane implant according to claims 1 or 2 with a membrane (2, 3, 5, 11) of polycarbonate urethane.

4. Membrane implant according to any one of claims 1 to 3 obtained by means of electrospinning of the membrane (2, 3, 5, 11).

5. Membrane implant according to claim 4 obtained by a multi-stage electrospinning process, wherein a first step an inner membrane (3) is produced on a core, with the stent (4) mounted on the membrane and, subsequently, the outer membrane (2) ~~being~~ is arranged and bonded to the inner membrane (3), following which the implant is separated from the core.

6. Membrane implant according to any one of the above claims, characterized in that the membrane (2, 3, 5, 11) embraces the webs of the stent (4) on all sides.

~~7. Membrane implant according to any one of the above claims, characterized in that the membrane has an outer layer facing the wall of the vessel, said layer having a sponge-like structure.~~

~~8.~~7. Membrane implant according to ~~claim 7~~any one of the above claims, characterized in that the inner layer (3) of the membrane (2, 3, 5, 11) is substantially of liquid-tight and smooth design.

~~9.~~8. Membrane implant according to any one of the above claims, characterized in that the membrane (2, 3, 5) has a ~~layer of~~ thickness of between 10 and 100µm in particular between 10 and 400 µm.

~~10.~~9. Membrane implant according to any one of the above claims, characterized by pores of a size ranging between 1 and 100 µm, in particular between 10 and 50 µm, in the membrane.

~~11.~~10. Membrane implant according to any one of the claims 1 to ~~8~~9, characterized in that the stent (4) is a self-expanding stent made of a shape-memory material.

~~12.~~11. Membrane implant according to claim 1~~0~~1, characterized in that the stent consists of nitinol or a ternary nickel-titanium alloy.

~~13.~~12. Membrane implant according to any one of the above claims, characterized in that the membrane (2, 3, 5, 11) accommodates a medical substance in its outer layer (2).

~~14.~~13. Membrane implant according to claim 1~~2~~3, characterized in that the medical substance has an anti-inflammatory or anti-stenotic effect.

~~15.~~14. Membrane implant according to any one of the above claims, characterized in that the membrane (2, 3, 5, 11) accommodates a radiopaque contrast medium.

~~16.~~15. Membrane implant according to any one of the above claims, characterized in that the stent (4) is provided at least on the outside with adhesion-promoting layer.