CLAIMS

1. A catheter (5) of an intravascular blood pump (P) for percutaneous insertion into a patient's blood vessel, the catheter (5) having an elongate tubular body (10) which extends between a proximal end (16) and a distal end (15) of the catheter (5) and has an outer surface (8), the catheter (5) including a porous three-dimensional structure (6) on at least a portion of the outer surface (8) which is located in the patient's blood vessel during operation of the blood pump (P), wherein the porous three-dimensional structure (6) is directly formed onto the tubular body (10) of the catheter (5), preferably by electrospinning or spraying.

2. The catheter of claim 1, wherein the porous three-dimensional structure (6) is formed by a sleeve (6) arranged on the outer surface (8) of the tubular body (10).

3. The catheter of claim 2, wherein the sleeve (6) comprises a textile material.

4. The catheter of claim 2 or 3, wherein the sleeve (6) comprises at least one of a knitted fabric, a knotted fabric, a woven fabric or a nonwoven.

5. The catheter of claim 3 or 4, wherein the sleeve (6) comprises a knitted fabric (20; 30) formed by warp knitting, preferably formed as 1x1 constructed knits (20) or 2x1 constructed knits (30).

6. The catheter of any one of claims 2 to 4, wherein the sleeve (6) comprises a knitted fabric (20; 30) including multi-filaments, each multi-filament preferably comprising 3 to 100 filaments, preferably 15 to 30 filaments, more preferably 24 filaments, wherein the multi filaments preferably have a diameter in a range of 0.5 µm to 10 µm, more preferably 1.7 µm to 5 µm and most preferably 2 µm to 4 µm.

7. The catheter of any one of claims 2 to 5, wherein the sleeve (6) has an elongate tubular body (17) having a proximal end (12) and a distal end (11) and is attached to the tubular body (10) of the catheter (5) at least at the proximal end (12) and the distal end (11) of the sleeve (6), preferably in a glue-free manner, preferably only at the proximal end (12) and the distal end (11) of the sleeve (6).

8. The catheter of any one of claims 2 to 7, wherein the sleeve (6) is solvent-welded to the tubular body (10) of the catheter (5).

9. The catheter of any one of claims 2 to 8, wherein the sleeve (6) is tightly fitted on the outer surface (8) of the tubular body (10) of the catheter (5).

10. The catheter of any one of claims 2 to 8, wherein the sleeve (6) is loosely fitted on the outer surface (8) of the tubular body (10) of the catheter (5) such that a clearance exists between the tubular body (10) and an inner surface of the sleeve (6).

11. The catheter of any one of claims 2 to 10, wherein the sleeve (6) is stiffer in a radial direction as compared to an axial direction.

12. The catheter of any one of claims 1 to 11, wherein the porous three-dimensional structure (6) is formed from or comprises a foam or sponge-like structure.

13. The catheter of claim 1, wherein the porous three-dimensional structure (6) is integrally formed on the outer surface (8) of the tubular body (10) of the catheter (5).

14. The catheter of any one of claims 1 to 3, wherein the porous three-dimensional structure (6) comprises melt-spun filaments, the melt-spun filaments preferably having a diameter in a range of 1 µm to 100 µm, more preferably 2 µm to 30 µm and most preferably 10 µm to 20 µm.

15. The catheter of any one of claims 1 to 14, wherein the porous three-dimensional structure (6) comprises a single layer (6) or comprises more than one layer (6a, 6b) which are preferably of different configuration.

16. The catheter of claim 15, wherein the porous three-dimensional structure (6) comprises a first layer (6a) having a foam-like or sponge-like structure and a second layer (6b) in the form of a textile sleeve, the second layer (6b) preferably surrounding the first layer (6a).

17. The catheter of any one of claims 1 to 16, wherein the porous three-dimensional structure (6) defines a plurality of first apertures and a plurality of second apertures, the first and second apertures being different in size.

18. The catheter of any one of claims 1 to 17, wherein the porous three-dimensional structure (6) comprises a non-absorbable material.

19. The catheter of any one of claims 1 to 18, wherein the porous three-dimensional structure (6) comprises a radiopaque material.

20. The catheter of any one of claims 1 to 19, wherein the porous three-dimensional structure (6) comprises at least one of polyethylene, polypropylene, polyamide, polyether sulfone, polyethylene terephthalate, polyurethane or natural protein fibers, preferably silk fibers.

21. The catheter of any one of claims 1 to 20, wherein the porous three-dimensional structure (6) is configured to promote adsorption of fibrinogen by means of the three-dimensional structure including a plurality of apertures (23, 24; 33, 34) and a plurality of threads (21, 22; 31, 32) permitting adsorption of fibrinogen in a radial inward direction.

22. The catheter of any one of claims 1 to 21, wherein the porous three-dimensional structure (6) has a thickness of at least 20 µm, preferably at least 30 µm.

23. An intravascular blood pump (P) for percutaneous insertion into a patient's blood vessel, comprising a pumping device (1) and a catheter (5) of any one of claims 1 to 22.