

Contents

I. Introduction	1
II. Previous Studies on the Spinal Vascular System	2
III. Experimental Methods and Clinical Examination Techniques	3
1. Anatomical Methods and Materials	3
2. Injection Techniques	3
3. Radiographic Techniques	4
3.1. Postmortem Macro- and Microangiography	4
3.2. Spinal Angiography in Animals	4
3.3. Clinical Spinal Angiography	5
3.4. Myelography	5
4. Own Investigations	5
IV. Anatomy of the Spinal Cord's Blood Supply	8
1. Embryology	8
2. Sources of Arterial Blood Supply and Radicular Feeders	8
3. Extramedullary Venous Drainage	11
V. Postmortem Angiography and Microangiography of Spinal Cord Vessels	13
A. Arteries	13
1. Superficial Arterial System	13
1.1. Cervical Region	13
1.2. Thoracic Region	17
1.3. Thoracolumbar Region	18
2. Intrinsic Arterial System	26
2.1. Central System (Sulcal or Central Arteries)	26
2.2. Peripheral System (Vasocorona)	32
3. Arterial Territories of Supply	34
4. Arterio-arterial Anastomoses	35
5. Discussion of Arteriographical Findings-Physiological Aspects	37
B. Veins	39
1. Superficial Venous System	39
2. Intrinsic Venous Systems	51
3. Transmedullary Venous Anastomoses	55
4. Discussion of Phlebographical Findings-Physiological Aspects	56
C. Capillaries of the Spinal Cord	58
D. Spinal Cord Arteries in Pathological Conditions	58
VI. Clinical Applications	65
1. Normal Anatomy in Selective Spinal Angiography	65
2. Spinal Vascular Malformations	65
2.1. Myelography	65
2.2. Angiographical Findings and Their Classification	66
2.3. Discussion	95
3. Vertebrospinal Space-occupying Lesions	105
VII. Pathomorphological and Pathophysiological Aspects	106
References	109
Subject Index	113