Clinical Scenarios in Surgery

Clinical Scenarios in Vascular Surgery

Gilbert R. Upchurch • Peter K. Henke

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Clinical Scenarios in Vascular Surgery

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foreword

Vascular diseases of the peripheral circulation are often complex and challenging to the clinician. This textbook addresses the entirety of common peripheral vascular diseases and will be an important resource to the practicing physician. Encounters with these patients will become increasingly common, given our successful prolongation of life in industrial society and the aging of the baby boomers born between 1946 and 1964. It is incumbent on physicians in training and established clinicians to understand the basics of a patient's presentation, appropriate diagnostic testing, and therapy for vascular diseases.

The most common learning by physicians is with rote memory after repetitive exposure to new words, new tests, and new procedures. However, the best learning comes from experience, especially after successfully evaluating and managing a patient's illness. The case studies presented in this textbook expose the reader to problem solving in a real-world context. It is surprising that medical education has been slow in adapting the learning paradigms of other professions, such as case studies in the business world and case law of our judicial system. Drs. Upchurch and Henke have identified an energetic and engaged group of contributors, and they have organized this textbook in an organ- and disease-specific manner that will facilitate the reader's focus on a given illness. This textbook fulfills a need to reeducate practicing physicians in a changing world of high technology. Its clear approach to vascular disease will be valuable to both primary care physicians and specialists, be they trainees in their early learning stages or seasoned practitioners. There is little question that *Clinical Scenarios in Vascular Surgery* belongs in the offices of busy clinicians and will be used frequently to enhance their knowledge, improve their practice, and benefit their patients.

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preface

Clinical Scenarios in Vascular Surgery is a first edition focusing on vascular disease in a series of clinical, case-based texts aimed at the medical student, trainee, and young vascular specialists including surgeons, vascular medicine physicians, and interventionalists. The field of vascular care is rapidly changing, primarily because of faster and more accurate diagnostic tools, as well as better therapies. Surgeons and non-surgeons treat vascular disease in the arterial, venous, and lymphatic systems, and these entities will only become more commonplace as the population ages. However, satisfactory treatment outcomes rely on proper decision making at all steps in the vascular patient's care.

The decision making begins with the proper diagnosis, which is still primarily based on a good history and physical examination. The goal of this text is to describe the typical presentation, describe diagnostic and therapeutic algorithms, and provide succinct supporting data at how these therapeutic decisions were made. Typical complicated disease courses, surgical outcomes, and pitfalls to avoid are described in many of these case scenarios. Selected references are included for the reader interested in more in-depth information about a particular topic.

The chapters are original and have been written primarily by young, practicing, academic vascular specialists who are well-versed in the problems described on a day-to-day basis. The structure of each chapter follows the same basic format that "walks" the reader through the given vascular disease entity. This format allows a focused and directed approach to clinically oriented management that is supported by the current literature. It is not the goal of this text to be all-inclusive. We also anticipate this book to be of particular appeal to vascular trainees studying for oral specialty board examinations.

This book would not have been possible without the hard work of the contributing authors. Their effort and knowledge conveyed on these pages is greatly appreciated by the editors. The persistence and excellent efforts of our publisher, Lippincott Williams & Wilkins, is acknowledged, and Acquisitions Editor Brian Brown deserves special thanks from us. Lastly, we sincerely appreciate the patience and support of our families, in particular our wives Nancy and Barbara. To the readers of this book, we hope it provides succinct and clear information that can be used in daily care of the patient with vascular disease for their benefit.

Gilbert R. Upchurch, Jr., MD
Peter K. Henke, MD

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case 1

John A. Cowan, Jr., MD, and B. Gregory Thompson, MD

Presentation

A 53-year-old right-handed woman with a history of tobacco use and hypertension is rushed to the emergency department after complaining of a severe, sudden headache followed by a momentary loss of consciousness. On examination, the patient is extremely lethargic with photophobia and right-sided hemiparesis.

Noncontrast CT Scan of the Head

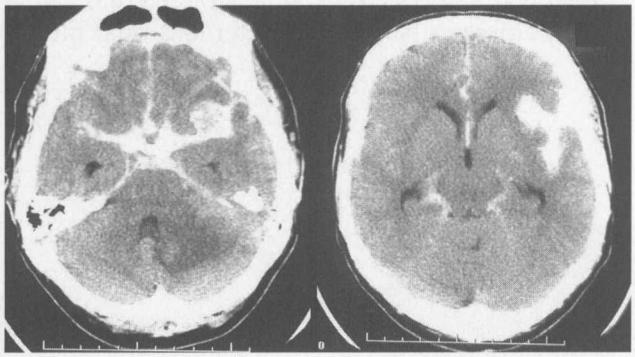

Figure 1-1

CT Scan Report

A noncontrast CT scan of the head reveals diffuse subarachnoid hemorrhage (SAH). A 1x1-cm calcified lesion is noted near the left anterior temporal lobe. A preponderance of the subarachnoid blood is filling the left insula and Sylvian fissure.

Differential Diagnosis

The patient's symptoms suggest a primary central nervous system event. Although headache is generally a nonspecific condition, the acuteness and severity of this patient's headache cause concern for intracerebral hemorrhage (ICH). Ischemic stroke and primary seizure disorder are common neurologic disorders and are nearly always nonpainful events. Intracerebral hemorrhage is generally due to trauma, tumor (primary or metastatic), hypertension, amyloid angiopathy, arteriovenous malformations, or aneurysms. The pattern of blood seen on the presenting CT scan (ie, blood layering in the sulci and extraparenchymal vascular territories, or subarachnoid spaces) is consistent with aneurysm rupture in the left middle cerebral artery (MCA).

Recommendation

Immediate stabilization of the patient's airway, breathing, and circulation (ABCs) is of prime importance. Patients who present with altered sensorium are at high risk for developing respiratory distress and aspiration. Furthermore, control of the patient's serum carbon dioxide levels will help in the management of elevated intracranial pressure. Therefore, the patient is intubated and mechanically ventilated to achieve adequate oxygenation and a partial pressure of carbon dioxide (PCO_2) between 32 and 36 mm Hg. An arterial line is placed and the patient is medicated to achieve systolic blood pressures less than 140 mm Hg. A central venous line is placed for intravenous access and to assess blood volume status. The patient is given loading and maintenance doses of an anticonvulsant and is started on a histamine (H_2) blocker or proton pump inhibitor for gastric protection. Nimodipine, a calcium channel blocker, is begun to lessen vasospasm. An electrocardiogram, serum sodium level, and coagulation studies are also performed. An external ventricular drainage catheter is placed in the right frontal horn of the lateral ventricle at the bedside. This provides immediate assessment of intracranial pressure and allows for drainage of cerebral spinal fluid as needed. The patient is then emergently taken to interventional radiology for a diagnostic angiogram.

Angiogram

Figure 1-2

Angiogram Report

The angiogram reveals an abnormal bilobed dilation at the bifurcation of the left MCA consistent with an aneurysm.

Diagnosis and Recommendation

Ruptured left MCA aneurysm, amenable to open surgery.