NINTH EDITION

Anderson's PATHOLOGY

VOLUME TWO

Edited by

JOHN M. KISSANE

IE INTERNATIONAL EDITION

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Preface to the Ninth Edition

My first responsibility, and it is a sad one, as editor of this ninth edition of *Anderson's Pathology*, is to mourn the loss of Dr. W.A.D. Anderson, creator and through nearly four decades guiding spirit of this book, which bears his name. He was an Emeritus Professor of Pathology and former Chairman of the Department of Pathology at the University of Miami School of Medicine in Miami, Florida. When he died on January 20, 1986, many of us lost a friend, and Pathology lost a scholarly spokesman. We will all miss him.

This edition continues the tradition of prior editions' concern. In the introductory chapters, mechanisms of human disease are addressed; these are followed by chapters that consider diseases of the several organ systems. Consideration of diseases of the various organ systems is deliberately made thorough so that the book can remain a useful and reliable source of information not only for medical students and trainees in pathology, but also for those training and practicing in other disciplines.

The eighth edition witnessed the emergence of acquired immunodeficiency syndrome (AIDS) as a major public health problem in industrialized societies as well as, by virtue of its protean clinical and morphologic manifestations, an important diagnostic consideration in specific patients. In preparing for this ninth edition, I considered allocating a separate chapter to AIDS. Eventually I decided to leave the consideration of AIDS within the several chapters addressing various organ systems, both for its basic aspects and for the descriptions of specific clinicopathologic features. Somewhat similar considerations related to the treatment of transplantation pathology, and the same decision was reached. These decisions remain very much open and may be amended in future revisions.

This edition of *Pathology* includes more than the usual number of chapters by new contributors. I welcome each of them and at the same time express my gratitude to their predecessors who have participated so importantly in the success this book has enjoyed throughout its long life.

John M. Kissane

Preface to First Edition

Pathology should form the basis of every physician's thinking about his patients. The study of the nature of disease, which constitutes pathology in the broad sense, has many facets. Any science or technique which contributes to our knowledge of the nature and constitution of disease belongs in the broad realm of pathology. Different aspects of a disease may be stressed by the geneticist, the cytologist, the biochemist, the clinical diagnostician, etc., and it is the difficult function of the pathologist to attempt to bring about a synthesis, and to present disease in as whole or as true an aspect as can be done with present knowledge. Pathologists often have been accused, and sometimes justly, of stressing the morphologic changes in disease to the neglect of functional effects. Nevertheless, pathologic anatomy and histology remain as an essential foundation of knowledge about disease, without which basis the concepts of many diseases are easily distorted.

In this volume is brought together the specialized knowledge of a number of pathologists in particular aspects or fields of pathology. A time-tested order of presentation is maintained, both because it has been found logical and effective in teaching medical students and because it facilitates study and reference by graduates. Although presented in an order and form to serve as a textbook, it is intended also to have sufficient comprehensiveness and completeness to be useful to the practicing or graduate physician. It is hoped that this book will be both a foundation and a useful tool for those who deal with the problems of disease.

For obvious reasons, the nature and effects of radiation have been given unusual relative prominence. The changing order of things, with increase of rapid, worldwide travel and communication, necessitates increased attention to certain viral, protozoal, parasitic, and other conditions often dismissed as "tropical," to bring them nearer their true relative importance. Also, given more than usual attention are diseases of the skin, of the organs of special senses, of the nervous system, and of the skeletal system. These are fields which often have not been given sufficient consideration in accordance with their true relative importance among diseases.

The Editor is highly appreciative of the spirit of the various contributors to this book. They are busy people, who, at the sacrifice of other duties and of leisure, freely cooperated in its production, uncomplainingly tolerated delays and difficulties, and were understanding in their willingness to work together for the good of the book as a whole. Particular thanks are due the directors of the Army Institute of Pathology and the American Registry of Pathology, for making available many illustrations. Dr. G.L. Duff, Strathcona Professor of Pathology, McGill University, Dr. H.A. Edmondson, Department of Pathology of the University of Southern California School of Medicine, Dr. J.S. Hirschboeck, Dean, and Dr. Harry Beckman, Professor of Pharmacology, Marquette University School of Medicine, all generously gave advice and assistance with certain parts.

To the members of the Department of Pathology and Bacteriology at Marquette University, the Editor wishes to express gratitude, both for tolerance and for assistance. Especially valuable has been the help of Dr. R.S. Haukohl, Dr. J.F. Kuzma, Dr. S.B. Pessin, and Dr. H. Everett. A large burden was assumed by the Editor's secretaries, Miss Charlotte Skacel and Miss Ann Cassady. Miss Patricia Blakeslee also assisted at various stages and with the index. To all of these the Editor's thanks, and also to the many others who at some time assisted by helpful and kindly acts, or by words of encouragement or interest.

W.A.D. Anderson

Anderson's
PATHOLOGY

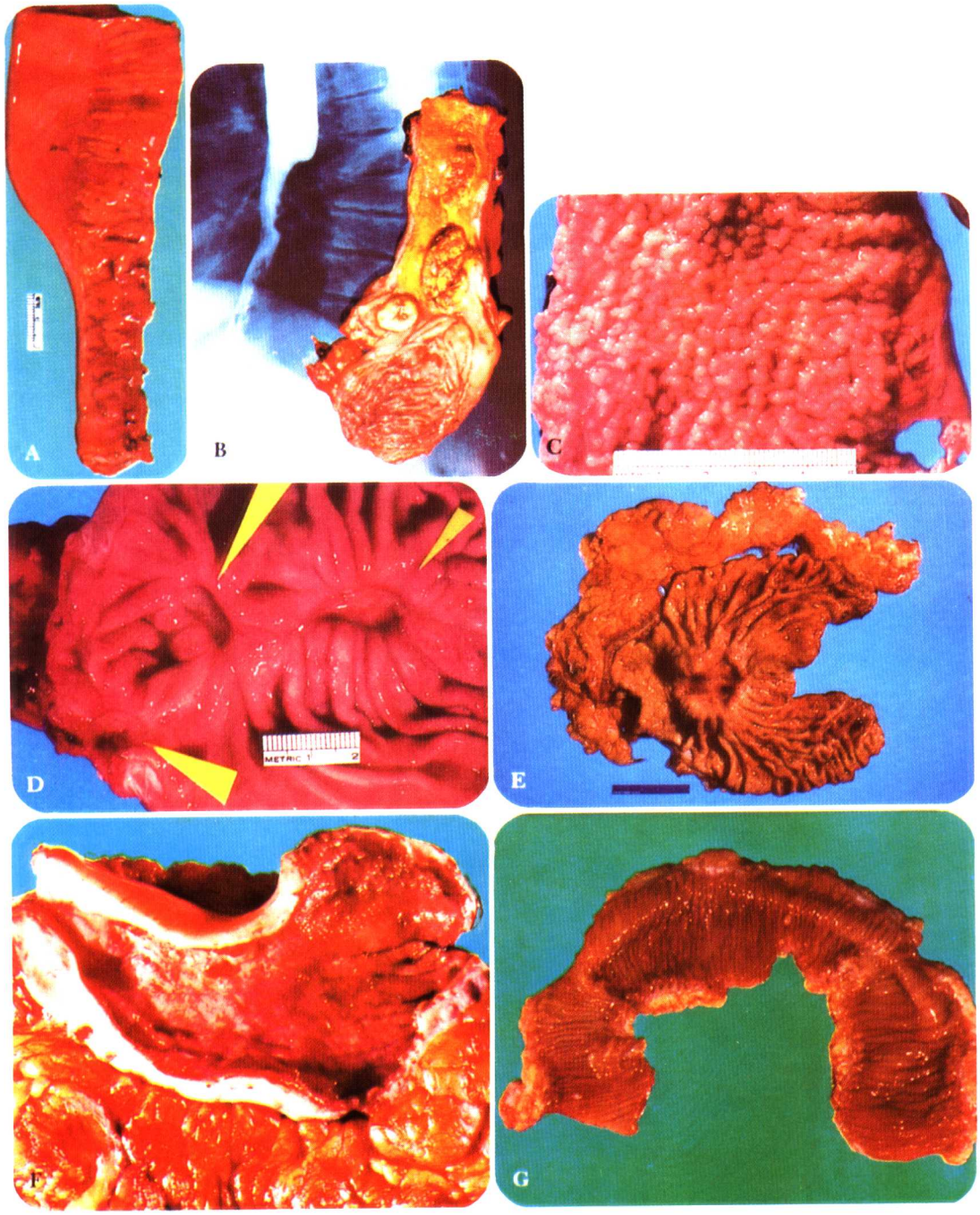

Plate 2

A, Congenital aganglionic megacolon (Hirschsprung's disease).
B, Multifocal epidermoid carcinoma of esophagus. Photograph of gross specimen superimposed on roentgenogram demonstrating lesion with aid of contrast medium.
C, Familial polyposis coli. Entire colon is carpeted by similar-appearing polyps.
D, Multiple gastric ulcers. Notice mucosal folds converging on ulcer edge without interruption.
E, Malignant gastric ulcer. Mucosal folds are interrupted toward crater.
F, Carcinoma of stomach, linitis plastica type. Surgically resected specimen.
G, Multiple carcinoid tumors of ileum. Patient had lymph node and liver metastases and demonstrated carcinoid syndrome.

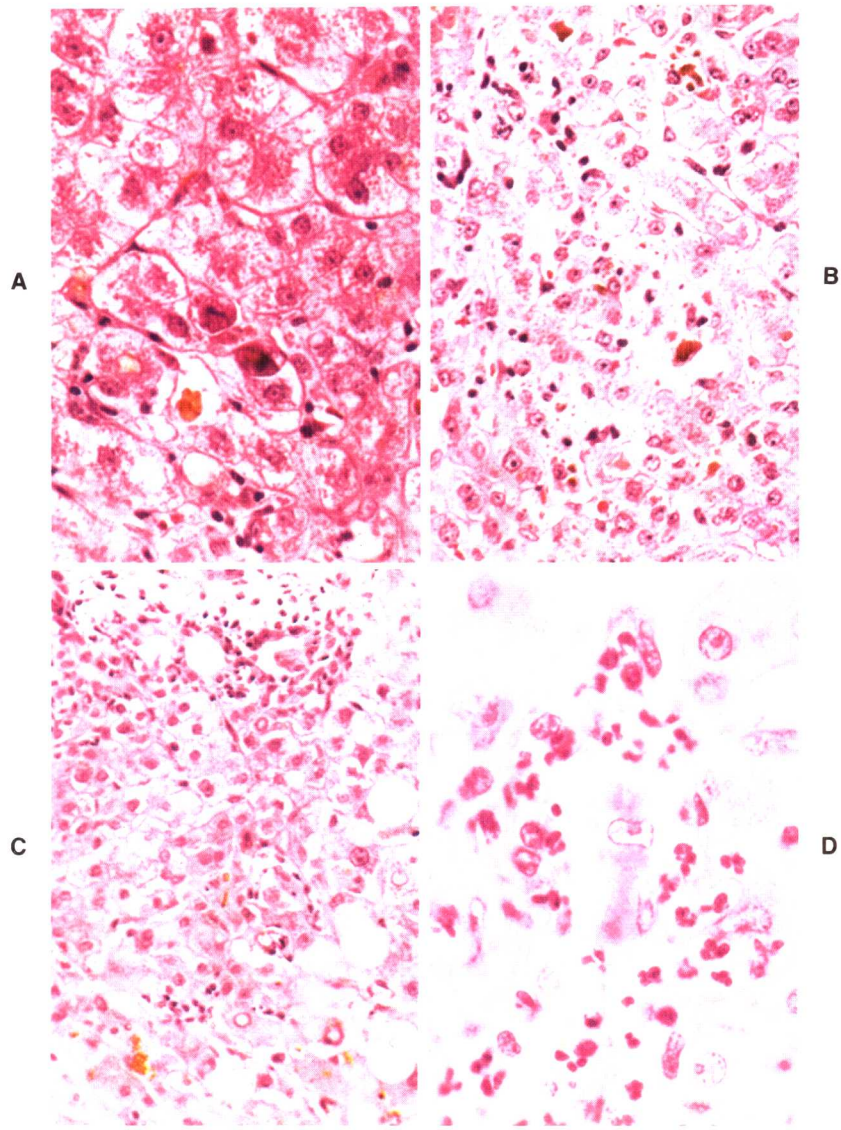

Plate 3

A, Needle biopsy in acute hepatitis A. Two acidophilic bodies are present near bottom. Cytoplasm is swollen and granular and cell membranes are indistinct.

B, Perivenular bile stasis in patient taking oral contraceptive.

C, Acute pericholangitis and cholestasis in needle biopsy. Large at surgery, stone was removed from common bile duct.

D, Hyaline necrosis in alcoholic patient. Many neutrophils are in sinusoids.

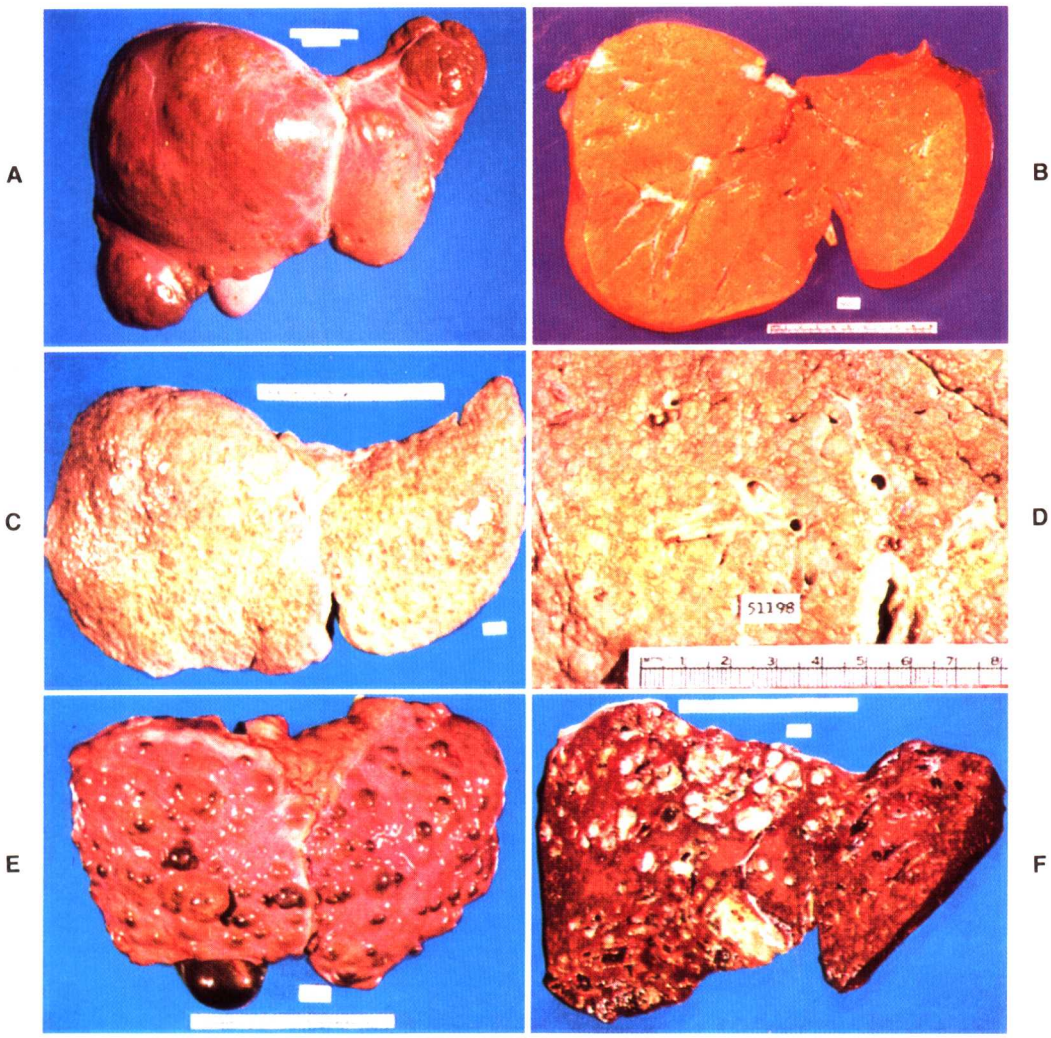

Plate 4

A, Submassive hepatic necrosis from viral hepatitis, with bulging areas of residual liver and much shrinkage and collapse of left lobe. Patient lived 24 days after onset of clinical symptoms.

B, Hypertrophic, firm, smooth alcoholic fatty liver.

C, Eutrophic, hard, finely pseudolobular alcoholic cirrhosis in 65-year-old man.

D, Cut surface of alcoholic cirrhosis showing pseudolobular pattern.

E, Atrophic, firm, megalonodular lupoid cirrhosis, quiescent in 20-year-old woman.

F, Suppurative cholangitis with multiple abscesses resulting from carcinomatous obstruction of common duct.

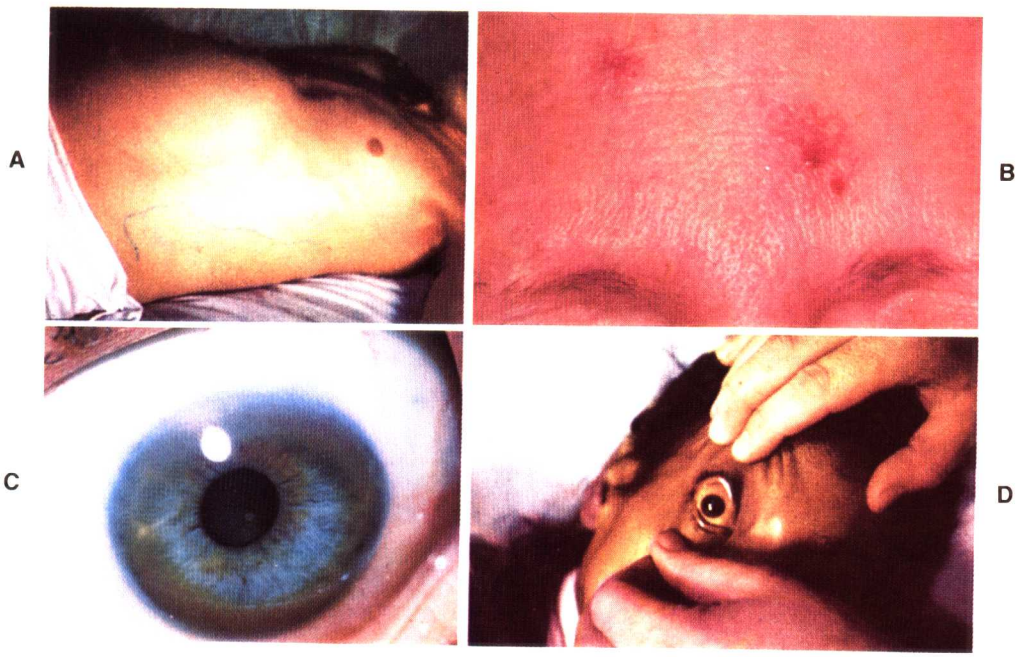

Plate 5

A, Hepatic cirrhosis. Ascites, congested veins, pigmented male nipple, axillary alopecia, and absence of striae.

B, Arteriovenous fistulas (vascular spiders) in diabetic cirrhosis. Arterial blood supply in center of lesion.

C, Kayser-Fleischer ring in Wilson's disease.

D, Jaundice and biliary cirrhosis after ligation of common bile duct.

(**A** and **D,** From Wiener, K.: Skin manifestations of internal disorders, St. Louis, 1947, The C.V. Mosby Co.)

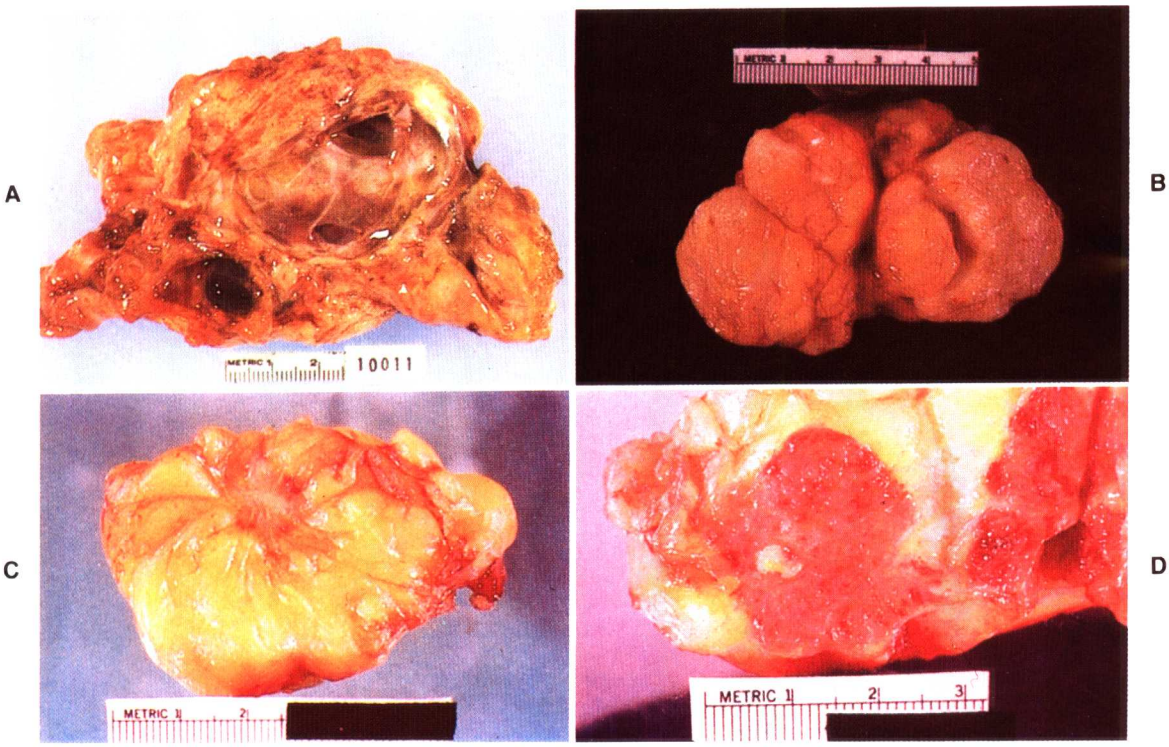

Plate 6

A, Cystic disease. Large cyst, measuring approximately 4 cm in diameter, appears in upper portion of specimen. Anterior cyst wall has been removed to reveal its multiloculation and smooth internal surface. Numerous smaller cysts are seen in lower right-hand portion of specimen. One appears dark red because of its serosanguineous contents.

B, Fibroadenoma. External surface appears well circumscribed. Compressed ducts, which help characterize the lesion microscopically, appear as slitlike spaces on lesion's cut surface.

C, Scirrhous carcinoma. Cut surface is light gray, stellate, and depressed beneath surface of surrounding fat. Notice linear depressions in surrounding fat that radiate out from carcinoma.

D, Medullary carcinoma. In contrast to scirrhous carcinoma in **C,** external surface of this tumor is smooth and convex and appears to push against rather than infiltrate adjacent fat. Cut surface is soft and on the same plane as surrounding fat.

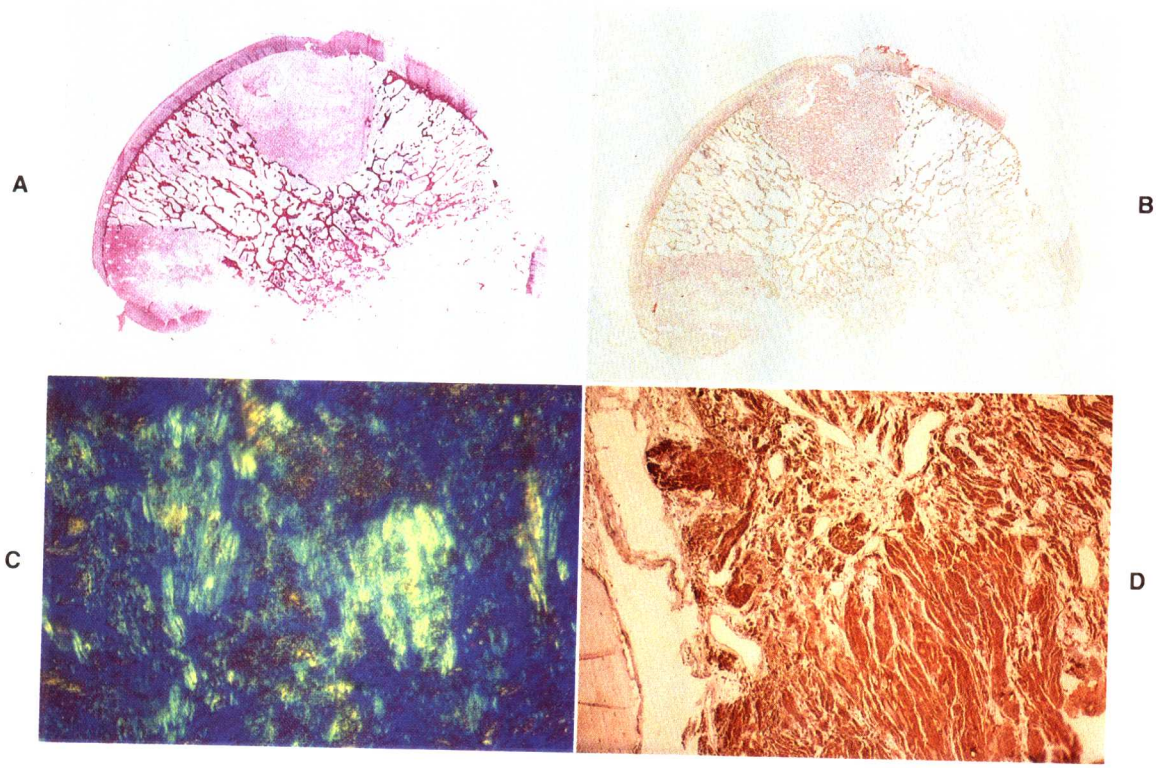

Plate 7. Beta$_2$-microglobulin amyloidosis of bone in chronic renal failure.

A, Whole-mount section of resected femoral head for fracture of the femoral neck in a patient on chronic hemodialysis. The homogeneous pale areas represent amyloidomas of bone. (Hematoxylin and eosin stain.)

B, Same section stained by the Congo Red technique for amyloid. The eosinophilic material seen on the hematoxylin and eosin stain in **A** is Congo Red positive.

C, Polarized-light examination of the Congo Red–positive material from the femoral head exhibits the characteristic apple-green birefringence of amyloid.

D, Immunoperoxidase stain for beta$_2$-microglobulin, the brown reaction product. The amyloid material reacts with antibodies directed against beta$_2$-microglobulin, resulting in the deposition of the brown reaction product.

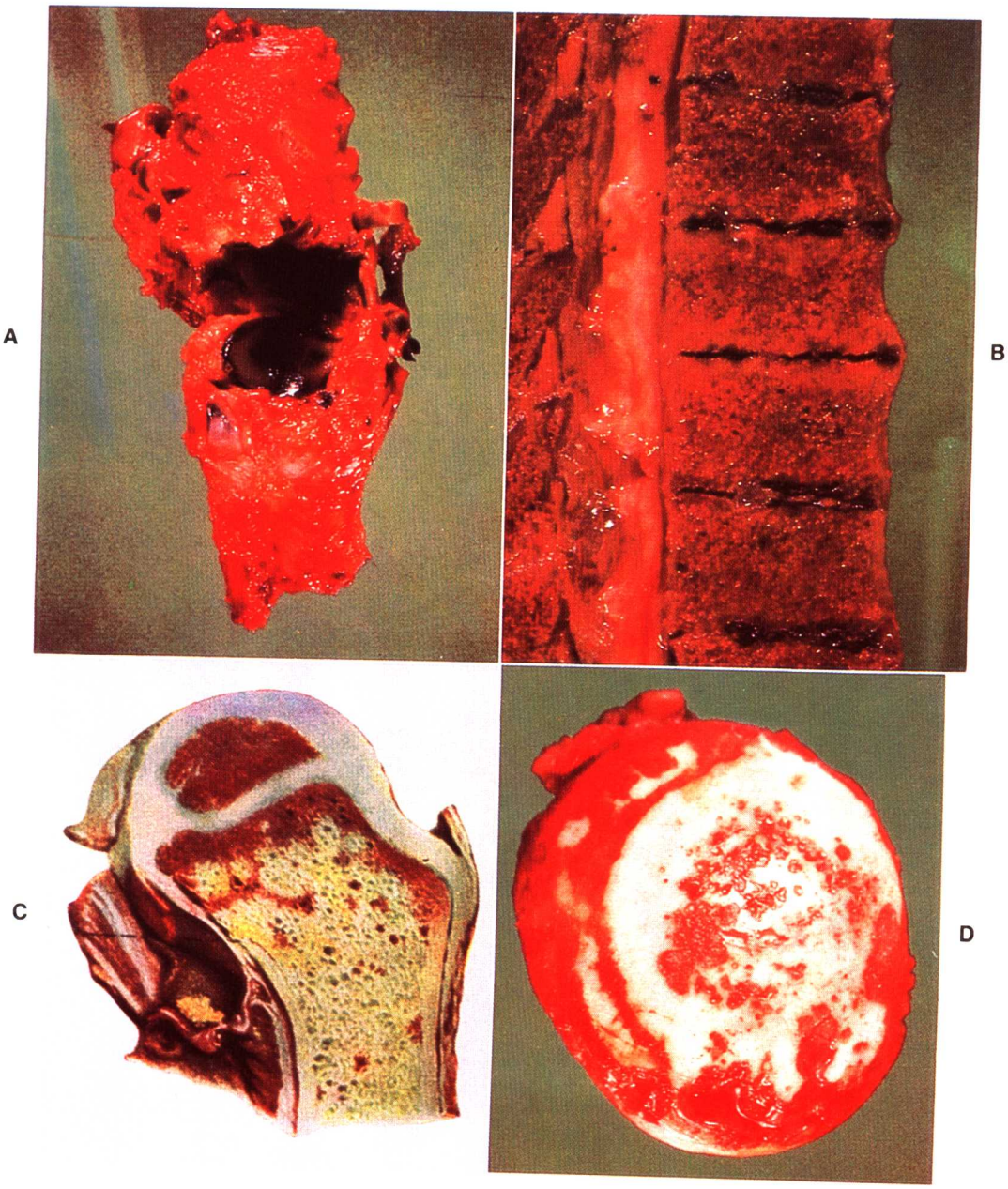

Plate 8

A, Ochronosis of knee joint. Intensely black stain of articular cartilage.
B, Ochronosis of intervertebral discs. Discs are stained deep black.
C, Purulent arthritis developing in course of staphylococcic osteomyelitis. Purulent exudate in both joint capsule and bone marrow. Notice communication between bone marrow and joint space.
D, Osteoarthrosis of femoral head. Pronounced ulceration of articular cartilage and some marginal lipping.
(**A** and **B,** Courtesy Dr. Steven L. Teitelbaum, St. Louis, Mo.; **C,** from Henke, F., and Lubarsch, O., editors: Handbuch der pathologischen Anatomie und Histologie, New York, 1934, Springer-Verlag, vol. 9, chap. 2; **D,** BH 75-1635.)