explained by simple differences in patient demographics or labor characteristics, based on the effect modifiers that we studied. Family physicians seeking guidance in this area should consider these issues and reserve the use of epidural block for those labors in which it is clearly indicated or advantageous to the patient. In addition, the patient should be provided with informed consent regarding the effects and risks of the procedure.

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NSAIDs and GI Bleeding

To the Editor: I enjoyed reading the review by Jaydev Varma, M.D., about nonsteroidal anti-inflammatory drugs in lower gastrointestinal bleeding (April–June 1989). I would simply like to add that the clinical experience of my practice is very similar to what he has stated. I have one patient who on three occasions has had lower gastrointestinal bleeding precipitated by the use of Indocin™. This patient has severe gout and ultimately was diagnosed as having angiodysplastic lesions of the colon. Another patient with known diverticular disease developed significant diverticular bleeding after use of a nonsteroidal agent.

Both of these patients were in the geriatric-aged group. I would be curious if the risks of lower gastrointestinal bleeding have been shown to be greater in geriatric patients similar to the increased risk that has been documented of upper gastrointestinal bleeding.

Karl B. Fields, M.D.
The Moses H. Cone Memorial Hospital
Greensboro, NC

The above letter was referred to the author of the article in question, who offers the following reply.

To the Editor: I have read Dr. Field's letter concerning lower gastrointestinal bleeding in the elderly. I find it reassuring that he has had a similar experience with the use of nonsteroidal anti-inflammatory drugs in the elderly.

In response to his question, whether the risks of lower gastrointestinal bleeding has been shown to be greater in geriatric patients similar to the documented risks of upper gastrointestinal bleeding, there are limited published reports in the medical literature. However, the geriatric-aged group is more vulnerable to gastrointestinal side effects of drugs in general and NSAIDs in particular. There are numerous studies relating to NSAIDs and upper gastrointestinal bleeding. However, to my knowledge there are no studies relating NSAIDs to lower gastrointestinal bleeding. My references in the article, "Do Nonsteroidal Anti-Inflammatory Drugs Cause Lower Gastrointestinal Bleeding? A Brief Review," contain the handful of published reports in this regard. A randomized, controlled study may be a reasonable approach to this problem.

Suggested reading:

1. Brocklehurst FC. The gastrointestinal system—the large bowel. In: Brocklehurst FC. Textbook of geriatric medicine and gerontology. New York: Churchill Livingstone, 1985:534-56.
2. Jones JK. Drugs and the elderly. In: Reichel W, ed. Clinical aspects of aging. Baltimore: Williams & Wilkins, 1989:41-60.
3. Carson JL, Strom BL, Morse ML, et al. The relative gastrointestinal toxicity of the nonsteroidal anti-inflammatory drugs. Arch Intern Med 1987; 147:1054-9.
4. Bahrt KM, Korman LY, Nashel DJ. Significance of a positive test for occult blood in stools of patients taking anti-inflammatory drugs. Arch Intern Med 1984; 144:519-21.
5. Patmas MA, Wilborn SL, Shankel SW. Acute multisystem toxicity associated with the use of nonsteroidal anti-inflammatory drugs. Arch Intern Med 1984; 144:519-21.
6. Agarwal AK, Eisenbeis CH Jr. Therapeutic guidelines for use of nonsteroidal anti-inflammatory drugs for rheumatic disorders: nonsalicylates. Fam Pract Recertification 1988; 10:49-70.
7. Amadio P Jr, Cummings DM. Nonsteroidal anti-inflammatory agents: an update. Am Fam Physician 1986; 34:147-54.

Jaydev Varma, M.D.
Medical College of Georgia
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Thromboembolic Disorders

To the Editor: In the article "Diagnosis and Evaluation of Thromboembolic Disorders" (April–June 1989), I was disturbed by the lack of importance given to the arterial blood gases (ABGs) in the initial workup of suspected pulmonary embolism. While Dr. Brunader states the facts on ABGs in laboratory data, he fails to use these facts later on. In Figure 1, "Approach to Diagnosis of Suspected Pulmonary Embolism," the ABG is especially absent in the initial workup consisting of H+P, EKG and CXR. The ABG, if it shows a $PaO_2 > 90$ percent, is an approximately 95 percent negative predictor of pulmonary embolism (PE), i.e., highly sensitive to rule out PE. Both the EKG and CXR are in most cases not very helpful in *ruling out* a PE, especially in the young healthy patient, and, certainly, they do not compare with a 95 percent negative predictor like the ABG. Moreover, in the large subset of patients who fit into the "slightly more than minimal risk" category (my own category), I find the ABG to be invaluable.

For example, consider a 20-year-old white woman with no significant medical history or family history. She was started on birth control pills 2 months ago but stopped them 3 weeks ago because of persistent daily

(often hours long or all day) central chest ache. It is rarely pleuritic and rarely associated with shortness of breath. The complaint has not increased or decreased since she stopped her birth control pills. Her examination is normal except her respiratory rate is 22. CXR and EKG are normal. In this patient, I would obtain an ABG, and when the ABG shows a PaO_2 that is 97 percent (as expected), I would decide against continuing testing for PE.

Brian D. Allen, M.D.
Bayne Jones Army Community Hospital
Ft. Polk, LA

The above letter was referred to the author of the article in question, who offers the following reply.

To the Editor: I appreciate Doctor Allen's comments and agree that an initial laboratory screen is appropriate in the workup of suspected thromboembolism, which is why it was discussed in the initial portion of the article. Indeed, a correction should be made to Figure 1 and the accompanying text. In earlier drafts of the article, this was included in the algorithm and discussion but was inadvertently left out in the final draft of the paper.

I would like to comment, however, that chest radiographs and electrocardiograms are often more useful in *ruling in* other disorders as opposed to *ruling out* pulmonary embolism. Cases as outlined by Doctor Allen of young, minimal-risk patients can be difficult. I was involved in the case of an 18-year-old man who after a 16-hour airplane trip developed a pulmonary embolism. He presented very classically, allowing a straightforward workup but had no other known risk factors other than the period of immobilization. Low-risk patients who present in an atypical fashion are a diagnostic difficulty for any physician. To what degree the case is pursued depends on the individual practitioner's clinical judgment and the patient's presentation. Is there an underlying history of anxiety? Consider a man in his middle-to-late 30s who smokes, has a family history of premature atherosclerotic coronary artery disease, and presents with somewhat nonclassic cardiac-type chest pain. If a cardiac stress test were performed, what would be the chance of obtaining a borderline nondiagnostic treadmill result, perhaps then requiring further evaluation, versus the risk of not aggressively pursuing a cardiac workup?

An algorithm almost always should be viewed as a guideline adaptable to different clinical situations and is not meant as an absolute standard.

I believe that where the workup ends in such a patient as presented by Doctor Allen depends on the clinician and the patient. What is the likelihood that this is anxiety; what is the likelihood that this is musculoskeletal; could this be pericarditis; could this be a small spontaneous pneumothorax; could this be a pulmonary embolism with a normal arterial oxygen concentration? Would I pursue a low-probability lung scan in such a patient; would I confirm a high-probability lung scan with an angiogram in such a patient, etc.? Most likely, the case presented was not related to thromboembolism. To what level of certainty pulmonary embolism is ruled out in such a patient I believe depends on the probability of other diagnostic possibilities. What was the final diagnosis?

Richard E.A. Brunader, M.D.
Fort Ord, CA

Books Received

Books that appear to be of particular interest will be reviewed as space permits.

AIDS: The burdens of history. By Elizabeth Fee and Daniel M. Fox. 362 pp. Berkeley, University of California Press, 1989. $28.50 (cloth), $12.95 (paper).

American Pediatrics: The social dynamics of professionalism 1880-1980. By Sydney A. Halpern. 228 pp. Berkeley, University of California Press, 1988. $27.50.

Color Atlas of AIDS. By Alvin E. Friedman-Kien. 155 pp. Philadelphia, W.B. Saunders, 1989. $39.95.

Conn's Current Therapy 1989. By Robert E. Rakel. 1114 pp. Philadelphia, W.B. Saunders, 1989. $49.95.

Dermatological Signs of Internal Disease. By Jeffery P. Callen, Joseph Jorizzo, Warren Piette, Kenneth E. Greer, Neal Penneys, and John J. Zone. 383 pp. Philadelphia, W.B. Saunders Company, 1988. $55.00.

Deviance and the Family. Edited by Frank E. Hagan and Marvin B. Susman. 176 pp. Binghamton, NY, The Haworth Press, 1988. $34.95.

Diagnosis and Treatment of Internal Disease. By K. Bork and W. Bruninger. 247 pp. Philadelphia, W.B. Saunders Company, 1988. $89.00.

Essentials of Clinical Nutrition. By Elaine B. Feldman. 605 pp. Philadelphia, F.A. Davis Company, 1988. $35.00.

Families and Health. By William J. Doherty and Thomas L. Campbell. 159 pp. Newbury Park, CA, Sage Publications, Inc., 1988. $9.95.

Healthy and Whole. By A. Earl Mgebroff. 221 pp. St. Louis, CBP Press, 1988.

Heart Disease: Review and assessment. By Michael E. Mendelsohn, Bradford C. Berk, and Eugene Braunwald. 240 pp. Philadelphia, W.B. Saunders, 1989. $35.00.

Hypnosis and Hypnotherapy with Children. Second edition. By Karen Olness and G. Gail Gardner. 431 pp. Philadelphia, W.B. Saunders Company, 1988. $39.00.

Instructions for Patients. Fourth edition. By H. Winter Griffith. 369 pp. Philadelphia, W.B. Saunders Company, 1988. $47.95.

The Medical Management of AIDS. Edited by Merle A. Sande and Paul A. Volberding. 383 pp. Philadelphia, W.B. Saunders Company, 1988. $30.00.

Medicine for the Practicing Physician. Second edition. Edited by J. Willis Hurst. 1857 pp. Stoneham, MA, Butterworths, 1988. $95.00.

Outpatient Surgery. By George J. Hill. 730 pp. Philadelphia, W.B. Saunders Company, 1988. $60.00.