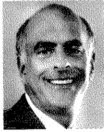
BY MARK B. ABELSON, MD, AND LISA LINES



The Illusion of an Explanation

Things to be aware of when diagnosing red eye.

PERHAPS IT IS TIME for a new term to replace the phrase "acute red eye," which is a truly inadequate catchall diagnosis. Perhaps we should call it "eye-itis"! Eye-itis is just as descriptive as acute red eye and conveys the proper amount of certainty about the diagnosis.

A painful red eye can be the presenting problem for a large number of conditions, but in our opinion, a diagnosis of "acute red eye" is not a complete diagnosis any more than "acute abdomen" is a diagnosis. Just as acute abdomen could be appendicitis, gastric ulcer or anything else ranging from a number of other things, acute red eye is a signifier for any number of underlying conditions.

A Brief History

The Roman physician Celsus gave the symptoms and signs of inflammation as rubor, dolor, calor, tumor and functio laesae (redness, pain, warmth, swelling, and loss of function). These symptoms are hard to discern in the eye without testing. Nevertheless, a thorough history and examination allow for a precise differential diagnosis. The pinnacle of medicine, in both its art and its science, is reached when an experienced clinician works his or her way to a diagnosis.

Causes of Red Eye

As you know, the causes of red eye range from trivial to life threatening. A red eye is the starting point, not the stopping point. Possible causes of red eye may include:

- Anterior membrane dystrophy
- Corneal ulcer
- Nighttime abrasion
- Immune infiltrate
- Hypoxia
- Corneal abrasion
- Recurrent corneal erosion
- Viral infection
- Dry eye
- Staying up late reading the night before
- Environmental or drug-induced keratitis
- Iritis or uveitis
- Wegener's granulomatosis
- Acute glaucoma
- Allergies (but of course, allergies are primarily characterized by itching)

Looking at the above list, the most likely underlying causes of red eye would be anterior membrane dystrophy, corneal ulcer, nighttime abrasion, infiltrate or hypoxia.

The Diagnosis

In thinking about diagnosis in general and the particular diagnosis at hand, we are reminded of two axioms. First, there is no such thing as a rare disease—only diseases that are looked for rarely. Second, listen carefully to your patients, because they are desperately trying to tell you their diagnoses.

All cases that are acute or have a sudden onset deserve to be seen by someone knowledgeable in clinical diagnosis, particularly if more than mild and/or transient. It is our opinion that a diagnosis of "acute red eye" completely disregards the long-held, accepted and useful current diagnostic categories.

Although rapid advances in medical science and new therapies often make front-page news, the age-old art of medical diagnosis serves as the foundation of medicine. You may recall that the word "diagnosis" is derived from the Greek: specifically, "dia," meaning "by," and "gnosis," or "knowledge."

The expert diagnostician interviews the patient, performs an examination, interprets the results and then synthesizes these disparate bits of knowledge and the knowledge from past training and experience—which can be contradictory in nature—to make a logical analysis of the patient's exact problem.

But deduction alone is not always enough to make a correct diagnosis. During the doctor-patient interview, the physician does not look for "just the facts," like Joe Friday from Dragnet. Rather, he or she investigates the way Columbo would by picking up on every detail: noticing vocal inflections and facial expressions and picking up subtexts and inferences. This is the art of the diagnosis.

We already know so much about eye disorders characterized by redness, and we are learning more by the day. The temptation to use the term "red eye" should be avoided, because we are better than that. RCCL

*Dr. Abelson (**mbabelson@oraclinical.com**) is an associate clinical professor of ophthalmology at Harvard Medical School and senior clinical scientist at Schepens Eye Research Institute; he also consults in ophthalmic pharmaceuticals. Lisa Lines is a medical writer at ORA Clinical Research and Development, North Andover, MA.*