

I. GENERAL PROGNOSIS

The minimally injured lightning victim in general needs only a good physical examination, observation, either in the hospital or by a responsible family member if the injuries are minor enough, and referral for any conditions that may need further evaluation, such as tympanic membrane rupture.

The more moderately injured patient may need hospitalization for a few days while the injuries are evaluated, monitored, and a rehabilitation plan is designed, if necessary.

The most severely injured victims have a variable prognosis. Those who respond rapidly to resuscitation or who are young and otherwise healthy may do quite well, although with varying levels of sequelae. Patients who do not respond as well generally have a poor prognosis and, of those who survive hospitalization, many have severe permanent sequelae, including paresis, seizures, and vegetative states.

II. SPECIFIC FOLLOW-UP

A. CARDIAC

Most patients who have had electrocardiographic changes (specifically, ST changes) on initial presentation will have these clear within 6 months or less. Seldom will these be clinically significant after the patient has survived the first few days without arrhythmias. It is extremely rare for patients to have continuing problems with congestive heart failure or other cardiac problems unless they have had underlying cardiac disease.

B. NEUROLOGIC

Some patients may complain of continuing pain and weakness in an extremity injured by the lightning stroke. They may also complain of weakness, but it is unclear if this is primary or is secondary to pain on use of the extremity. These symptoms are probably due to neuropathy because of peripheral nerve ischemia or damage at the time of the stroke, but, while it is a common complaint, few neurologists or physicians have been interested enough to evaluate it completely to date. Nonsteroidal, antiinflammatory drugs are generally used for this with limited success. Electromyography and other testing may be appropriate in order to define the extent of disability and to plan rehabilitation. Sometimes this condition clears with time, sometimes it is permanent, and to date there is nothing in the literature that gives a guide to predicting the prognosis.

Occasionally, the patient who showed keraunoparalysis on initial presentation will have permanent paresis and will need to have physical therapy to regain maximal function.

Lightning victims who have seizures as a result of some correctable problem such as hypoxia due to a temporarily obstructed airway will not be bothered with them afterwards. However, patients who have seizures because of brain damage have the same prognosis as any patient with a similar traumatic or hypoxic lesion and should be treated with this in mind.

C. PSYCHIATRIC AND PSYCHOLOGICAL

Many, if not all, lightning victims have some degree of psychiatric symptomatology as a result of their experience. However, not all require psychiatric care. Many of the changes have to do with increased awareness of weather conditions and fear of storms. Other patients, however, will have more severe symptoms that may require referral for testing and therapy. These include sleep disturbances, changes in mental ability and personality, storm phobias, and irritability.

D. OPHTHALMIC

Changes in vision need to be evaluated by an ophthalmologist. Cataracts may occur, but so

may a whole host of injuries, as noted in Chapters 5 and 6, which can be treated in the standard way and have a prognosis that is similar to any other traumatic cause of the same lesion.

E. OTOLOGIC

As discussed, tympanic membrane rupture, ossicular disruption, and cochlear disturbances are fairly common with lightning injuries. Those that require operative intervention are usually delayed until the edema and inflammation of the original injury have time to resolve. Until that time, they are treated conservatively and supportively. Evaluation of hearing with otologic testing may be indicated.

F. MUSCULOSKELETAL

These are treated in the usual fashion and have the same prognosis as other traumatic lesions to the musculoskeletal system.

G. BURNS

These are generally superficial and require little care. In the rare event of deep burns, they should be treated as any other electrical burn, depending on their size and extent, and may require referral to a burn center.

H. RENAL

It is uncommon to have injuries to the renal system. When they do occur, they are usually secondary to either hypotension as a result of cardiac arrest and low perfusional states or, rarely, to myoglobinuric renal failure.

I. GASTROINTESTINAL

GI symptomatology has usually cleared by the time the patient is discharged from the hospital. Otherwise, it is treated in the standard fashion as indicated by the pathology.