

Morbidity of Hurricane Elena

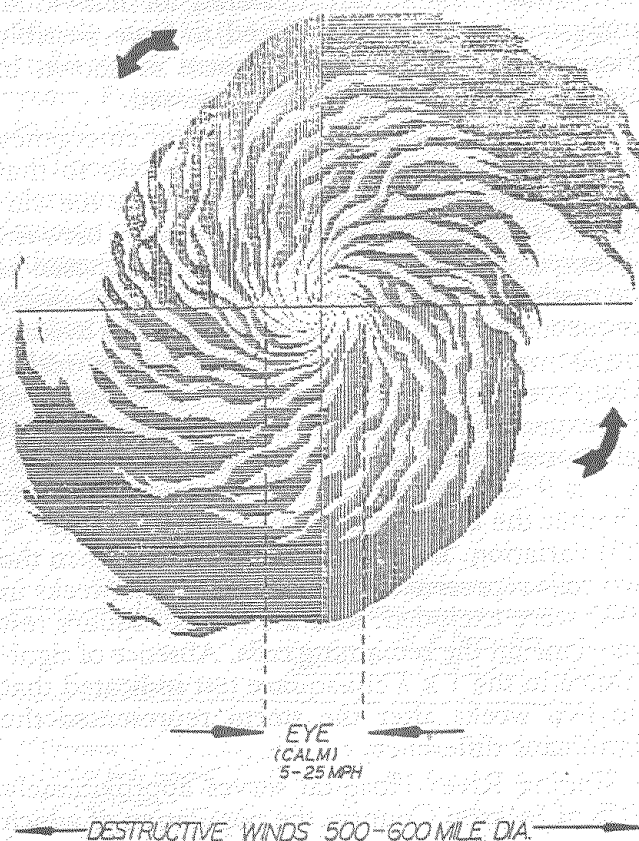
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ABSTRACT: On Sept 2, 1985, Hurricane Elena struck the Gulf Coast of Mississippi. We conducted a retrospective review of Emergency Department logs for a one-week period before and a two-week period after the storm to determine what additional support would be needed to manage such a disaster. There was a significant increase in the number of patients treated for psychiatric problems and trauma. These findings are similar to the results obtained in a study at the same hospital after Hurricane Frederic in 1979.

APPROXIMATELY four hurricanes threaten the Atlantic and Gulf coasts of the United States each year. These storms have a potential for disaster, as evidenced by the Galveston storm of 1900, where 6,000 of the 38,000 inhabitants of the city lost their lives.¹ Besides loss of life, tremendous property damage and huge dislocations of people can occur. Hurricane Elena, the topic of this paper, forced some 2 million people to be evacuated.²

The dynamics of these storms have been described by Eliot.³ The warm, moist air over tropical waters forms an inversion as air heated at the surface rises and meets descending cool air. Where a thunderstorm breaks through this inversion, there is an area of low pressure, which propels the prevailing winds in a spiral pattern toward its center. When winds reach 39 mph, the storm is classified as a tropical storm and is given a name; when the winds reach 74 mph, the storm is upgraded to a hurricane. Once the storm travels over land, it rapidly dissipates. The general anatomy of such a storm is shown in the Figure. These storms are huge, covering hundreds of square miles, and their severity is classified on the Saffir/Simpson Hurricane Scale (Table 1). Hurricane Elena was a class III hurricane, indicating that there were sustained winds from 111 to 130 mph, and a storm tidal surge in the center of the hurricane of nine to 12 ft.

Very few studies have attempted to predict the number of patients and the nature of their complaints after a hurricane. Most studies have dealt with anecdotal descriptions,⁴⁻⁶ problems with logistics and communication,⁷⁻¹⁰ and death



Configuration of hurricane.

count.^{11,12} One study addressed emotional response,¹³ and another alluded to increased numbers of cases of gastroenteritis, dysentery, rheumatic fever, and pneumonia after Hurricane David in Dominica,⁴ but the specific numbers of patients and the time after the hurricane that they sought treatment were not documented.

MATERIALS AND METHODS

We conducted a retrospective analysis of the

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