mined metabolic anomalies and endocrine disorders, but even a brief discussion of these syndromes would extend the scope of this review beyond its limited objectives toward the daunting prospect of an examination of the entire field of medicine.

FURTHER READING

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CURRENT TOPIC

Influenza and Respiratory Failure

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At this time of the year, and particularly in association with epidemics of respiratory tract infection such as the prevalent influenza, a number of patients will die from respiratory failure unless their need for first-aid is recognized. On the other hand, if recognition is prompt the condition may be self-limiting or of short duration, with subsequent full recovery of pulmonary function. In the belief that respiratory failure is less well recognized than is, for example, cardiac failure, a guide to its recognition and treatment is offered.

Recognition

Respiratory failure is one of the conditions for which the aphorism, "If you consider it you recognize it," holds good. Respiratory failure means respiratory inadequacy and not respiratory arrest. It implies that there is a progressive inability of the lungs to oxygenate and remove carbon dioxide from venous blood.

Predisposing Factors

Predisposing factors are: (1) Extremes of age. Although respiratory failure may occur at any age it is commoner in the very young and those over 60. (2) Pre-existing chronic respiratory disease, particularly bronchitis, emphysema, and asthma. (3) Ill-health or self-neglect.

Although the above conditions commonly are associated with respiratory failure, an overwhelming infection may lead to failure in any patient with no apparent predisposition.

Clinical Picture

Any patient with respiratory disease which is not responding to conventional treatment should be considered to be in impending respiratory failure. The diagnosis should be made before the patient is moribund. If more than two of the following signs co-exist the patient is ill, and if more than four he is in extremis: exhaustion; irritability, anxiety, or stupor; rapid or slow shallow breathing, pallor and/or cyanosis; cold, moist skin; rapid, feeble pulse.

The cardiovascular signs are variable, and respiratory failure can coexist with apparent cardiovascular stability for some time in the absence of heart disease.

Biochemical Investigation

Biochemical confirmation of the diagnosis is not necessary before beginning treatment, but is a useful guide to its adequacy. In asthma the blood gases may not be grossly abnormal, but the decision to begin treatment is based on dyspnoea and exhaustion. In other cases respiratory acidosis with hypoxemia will give confirmatory evidence and will provide a baseline for comparison with subsequent measurements.

Treatment

If the patient is not already in hospital admission is essential. He must be accompanied in the ambulance by a medical attendant who can recognize the need for, and is able to give, artificial ventilation. If artificial ventilation has to be given, ideally these patients should be intubated and ventilated with oxygen-enriched air. Alternatively expired-air resuscitation or bag-and-mask ventilation is acceptable. Unless the attendant is very skilled in its application, automatic rescue breathing apparatus should probably not be used. Assisted ventilation should be given early rather than late, and should not be delayed until respiratory arrest has occurred. Oxygen should not be given to patients who are breathing spontaneously unless they are under continuous expert supervision.

After admission to hospital definitive treatment is begun. This need not concern us here except in outline. It will include intermittent positive-pressure ventilation and tracheobronchial lavage, together with the use of antibiotic and bronchodilator drugs. Sedative, respiratory depressant, or muscle-paralysing agents may also be used. These patients are always actually or functionally hypovolaemic and require large volumes of plasma expanders and electrolyte solutions intravenously.

Although almost any patient in respiratory failure may be temporarily improved by treatment his ultimate prognosis is markedly influenced by the speed with which the condition is recognized and definitive treatment instituted.

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