and the sputum for eosinophils and for fungi, particularly *Aspergillus fumigatus*. Wherever possible, exposure to any substance suspected of causing attacks should be avoided. Attempts to discover such substances by provocation tests may give rise to extremely severe asthmatic attacks and such tests should be done in hospital, with bronchodilator drugs to hand before the test starts. Reduction of dust in the bedroom may make attacks at night less frequent.

Asthmatic attacks are often set off by respiratory infections and such infections should be promptly treated; broad-spectrum antibiotics such as oxytetracycline are usually most helpful. The dose of bronchodilators or corticosteroids which the patient may be taking should be increased in infections.

For routine therapy, oral preparations of bronchodilators, particularly ephedrine, are of great value. The irritant qualities of aminophylline have caused numerous oral preparations to be marketed with varying success, but there is no doubt of its efficiency in suppository form, particularly for those patients whose attacks are most severe at night. It is important to assess the severity of asthma and its response to treatment by measuring ventilatory capacity. In particular, if it is decided to use corticosteroids, the measurement of the $F.E.V._1$ and F.V.C. during the trial of the drug and possibly during its replacement with inert dummy tablets will be of great value, as the subjective euphoriant effect of the drug may be misleading in the absence of objective measurements of ventilatory capacity.

Status Asthmaticus

This term is applied to a severe, sustained, or sudden attack of asthma which does not respond promptly to conventional therapy, and usually requires the patient to be admitted to hospital. Treatment with corticosteroids is the most important line of defence, but it is generally accepted that up to eight hours may elapse before the effect of these drugs is felt, whether they are given by mouth or parenterally. Although treatment with prednisolone in doses of 40 mg./day or sometimes more should be started at once, the hours before this becomes effective may be critical. Adrenaline may be given subcutaneously in a dose of 1 ml. of 1/1000 solution, and aminophylline given slowly intravenously in a dose of 500 mg. over five to 10 minutes.

Infection should be treated with an appropriate antibiotic, and oxygen should be given; it is usually unnecessary to control the concentration on account of carbon-dioxide retention, but the point can be settled if the oxygen and carbon dioxide pressures in arterial blood are measured. Because tenacious secretions are an important cause of the airway obstruction the patient should be kept well hydrated, if necessary by the intravenous route. In the most severe cases, and in particular in children, in whom sudden development of ventilatory failure is common, it may be necessary to resort to artificial ventilation; an endotracheal tube may be passed, but, because of the high resistance of the airways, a powerful volume-cycled ventilator may be needed. Artificial ventilation removes the work of breathing and relieves some patients in whom exhaustion threatens life.

Corticosteroid Therapy

Should it have been necessary to give corticosteroids to an asthmatic patient, it will eventually be necessary to decide whether they should be used for maintenance therapy. When the patient's condition, as shown by the ventilatory capacity, is seen to be stable, it may be possible to substitute inert tablets for the active drug without a change in ventilatory capacity over the next few days. Such patients are likely to do well either without corticosteroids or with a small maintenance dose, which may be given on three days in the week. If the ventilatory capacity falls when the dosage is reduced, or when inert tablets are substituted, daily maintenance therapy may be needed. The dosage of steroids should be supplemented by oral or nebulized bronchodilators, and alterations in the dosage may be needed to match the clinical state of the patient.

Because of the threat of status asthmaticus, the patient should be clear what he can do for himself in an attack, and when he should send for help. If he is in doubt, he should not rely on excessive doses of his aerosol but obtain help. Hospital units dealing with many asthmatics may often find it best to admit at once and without question known asthmatics whose general practitioner says have a severe attack, or who may contact the hospital themselves to say they have deteriorated. Prompt treatment will save lives, and will give rise to a surprisingly small proportion of cases which turn out to be less severe than was expected.

ANY QUESTIONS?

We publish below a selection of questions and answers of general interest.

Transference of Maternal Antibody

Q.—*In which of the common exanthema is there transference of maternal antibody to the foetus, and does this always give protection up to the age of 6 months in the baby? What is the reason for advising that gamma-globulin should be given to contacts of chicken-pox if they are under 3 months old? Is it accepted practice in this country?*

A.—The common exanthemata are measles, rubella, and chicken-pox, and maternal antibody can in each case pass through the placenta to the foetus. Rubella and measles are uncommon diseases in infants during the first six months of life, though it is possible that some infants do become infected with the virus, without showing signs of it, while still under cover of maternal antibody. Such infants may develop their own antibody, and remain immune to rubella and measles for the rest of their lives.

Chicken-pox is a fairly common disease in young infants, though often the exanthem consists of only a few spots which may be easily missed. In such infants protection given by maternal antibody is substantial but not complete. In the neonatal period, if no maternal antibody has passed to the foetus, chicken-pox can be a severe systemic disease with a fatality rate of up to 20%. When a mother suffers from chicken-pox in the last two weeks of pregnancy it is advisable to give the neonate gammaglobulin. This should preferably be derived from chicken-pox convalescent serum, for it is doubtful if "ordinary" gammaglobulin, human normal immunoglobulin, gives any protection against chicken-pox.

There is no indication for giving gammaglobulin to older infants exposed to chicken-pox unless it is known for certain that the mother has never had chicken-pox. This could be checked by complement-fixation tests on the serum of mother or baby or both, though such tests may not be available in all laboratories.

Oral Contraceptives and Infectious Hepatitis

Q.—*Should oral contraceptives be stopped during an attack of infectious hepatitis, and how soon after is it safe to resume taking them?*

A.—It would be prudent to stop oral contraceptives during an attack of infectious hepatitis, and not to resume them until the jaundice has cleared up and liver function tests have been shown to be normal. However, some women have developed infectious hepatitis while using oral contraceptives, have continued to use them, and have recovered from the hepatitis without, apparently, any adverse effect from the oral contraceptives.