with that due to the disease. In these latter circumstances it may be attributed to a worsening of the disease itself, and persuade the unwary to increase the dose, whereas all that is necessary is to stop treatment. The nature of the reaction is usually betrayed by the coexistence of a rash, in which the elements of hyperaemia and oedema are variously combined, although the urticarial type of **rash** is commonest. More severe skin conditions, even including generalized exfoliative dermatitis, are very rare.

The continuation of treatment in a sensitized patient may lead to a much more serious condition which has a similar basis : this is a **necrotizing arteritis** with focal lesions in many organs, indistinguishable from periarteritis nodosa. The view is indeed gaining ground that this disease is a reaction of sensitivity to drugs, among which sulphonamides are by no means the only cause.

Toxic Effects

Various banal symptoms may be caused, including **nausea**, with or without vomiting, **headache** and **dizziness**, and some degree of mental depression. The most important effects classifiable as toxic—although their precise mechanism is not always certain—are on the blood-forming organs.

Agranulocytosis is the usual effect; it is fortunately rare and often fatal. Although this is undoubtedly capable of being produced by a sulphonamide alone, it is always worth while to inquire what other drugs have been used. It is on record that three patients in the same unit with fatal agranulocytosis believed to be due to sulphapyridine were found also to have been given amidopyrine in a proprietary sedative tablet with a name not betraying its contents. It is possible that two drugs each with a marrow-damaging potential may act synergically in producing this effect. More rarely, **thrombocytopenia** or **aplastic anaemia** may result. **Acute haemolytic anaemia** is another rare consequence. It is believed to be due to the formation of a haemolysin for red cells containing the drug.

Cyanosis, due either to the formation in the red cells of an abnormally coloured sulphonamide-haemoglobin compound, or sometimes to the formation of methaemoglobin or even sulphaemoglobin, was commonly produced by the earliest sulphonamides, but is very rare with the later ones.

In the Newborn

It is important to recognize that the newborn infant has a deficient capacity for metabolizing and excreting these drugs, and they should not be administered within a week or more of full term and at least a month of premature birth. The main danger is of producing **kernicterus,** due to the displacement of bilirubin from its binding site on plasma protein by the attachment of the drug.

Correction.—In the section on Drugs for Constipation in the "To-day's Drugs" article on Geriatric Prescribing (8 February, p. 357) the dose of 10 mg. given for the suppository "beogex" was incorrect. These suppositories contain anhydrous sodium acid phosphate 1.4 g. and sodium bicarbonate 1.4 g.

ANY QUESTIONS?

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

A.C.T.H. for Hyperemesis Gravidarum

Q.—*I have had two severe cases of hyperemesis gravidarum which have been apparently cured with A.C.T.H. Is this a rational and safe treatment?*

A.—Since the aetiology of hyperemesis gravidarum, mild or severe, is unknown it is difficult to describe any form of treatment as being rational. It is not surprising, however, that good results have been observed after the use of A.C.T.H., and a similar response would be expected from using cortisone. At first sight there would be little in common between such rare complications of pregnancy as herpes gestationis and hyperemesis gravidarum, although the exciting factor in both cases may well be an abnormal metabolic or hormone product of pregnancy. In both conditions increased blood and urinary gonadotrophins are not uncommon. Cortisone or prednisone are the most effective drugs available for the control of herpes, so it is not surprising that A.C.T.H. has been found effective in the cases to which the question refers.

Hyperemesis is most likely to be a problem during the first trimester, a time during which it is advisable to avoid any drugs which can reasonably be dispensed with. Margulis and Hodgkinson,[1] after an experience of A.C.T.H. and cortisone in 28 pregnant women, recorded no physical or mental abnormality in the infants. Barnes[2] and others have advised against the use of large doses of these hormones either early or late in pregnancy. Infants born of mothers to whom cortisone has been given can show symptoms suggesting adrenocortical failure after birth. On the other hand, there would be at least the theoretical objection to A.C.T.H. in early pregnancy that it may cross the placental barrier, stimulate excessive foetal cortical action, and produce physical evidence of adrenal cortical hyperplasia in the newborn infant. It would seem, therefore, that if hyperemesis gravidarum were sufficiently severe to warrant the use of A.C.T.H. a similar clinical response could probably be achieved with a greater margin of safety by using cortisone or prednisone.

REFERENCES
1 Margulis, R. R., and Hodgkinson, C. P., *Obstet. and Gynec.*, 1953, 1, 276.
2 Barnes, A. C., ibid., 1954, 3, 322.

Effects of Maternal Herpes Zoster on Foetus

Q.—*Is anything known about the possible effects on the foetus of a herpes zoster infection in a woman in the early stages of pregnancy?*

A.—There have been a few reports[1–3] of congenital defects in infants born to women who had herpes zoster in pregnancy. The stage at which the illnesses occurred and the nature of the defects varied. The association with herpes zoster in these cases may well have been coincidental. No results of any systematic or controlled inquiry into the question are yet available.

REFERENCES
1 Swan, C., and Tostevin, A. L., *Med. J. Aust.*, 1946, 1, 645.
2 Michon, L., Aubertin, D., and Jager-Schmidt, G., *Arch. franç. Pédiat.*, 1959, 16, 695.
3 Duehr, P. A., *Amer. J. Ophthal.*, 1955, 39, 157.

Vitamin D for Babies

Q.—*Is it ever necessary to supplement the feeds of babies on (a) artificial milk or (b) breast milk when there is no clinical evidence of lack of vitamin D?*

A.—Both cow's and human milk contain barely sufficient vitamin D for a normal healthy baby on adequate feeds. The vitamin-D content in both may be low in winter as a result of lack of exposure to sunlight or an inadequate vitamin-D intake in the food. Consequently a baby who is not taking adequate feeds, who has any form of intestinal malabsorption, or, conversely, who is growing exceptionally fast may have a suboptimal intake of vitamin D.

It is therefore advisable to give supplements of vitamin D to all babies in this country, at least during the winter, and because the amount of sunlight to which babies are exposed is so uncertain it is wise as a general rule to maintain the practice throughout the year. However, some proprietary dried and evaporated milks contain added vitamin D, as do some proprietary baby cereals, and it is necessary to check the actual amount of vitamin D contained in the feeds before advising additional supplements of a vitamin concentrate. A faint risk of