

been calculated that in a drop of milk the size of a pin-head there are 1,500,000 separate globules of fat, and it is easy to realise that fat so finely broken up as this must be very easily penetrated by the digestive juices. Cream also contains a small percentage of protein and sugar. It is by no means an economical means of introducing fat into the diet, but it is nevertheless very useful in certain cases of illness. Skimmed cream contains 70 per cent. of water, 20 per cent. of fat and 10 per cent. of other solids. Machine-separated cream has 50 to 60 per cent. of water, 30 to 35 per cent. of fat and 15 per cent. of solids. The fat left in milk, after removing the cream by centrifugal methods, is negligible. In separated cream there are, of course, fewer bacteria than in skimmed cream, but these add to rather than detract from the palatability of the cream, except, of course, when the stage of sourness is reached. Preservatives were frequently used in cream at one time, but now this is forbidden by law. There is no legal standard of fat content for cream, but, as already indicated, the best cream is, from the point of view of analysis, that obtained by the centrifugal method.

In preparing Devonshire and Cornish cream, the cream is taken from the milk after 12 hours, and is then scalded, at a temperature of 187 deg. F., for 15 minutes, so that the water evaporates and the casein coagulates. It is then cooled for 24 hours and skimmed.

Cod liver oil was much given to children a generation or so ago in order to supplement the fat in their diet; but now halibut and cod liver oils are mainly used with a different purpose in view, *i.e.*, to supply the important vitamins. The story of how these oils come to be so rich in vitamin content is a romance of medical scientific discovery, a romance, too, in the adventures of life in the sea, and indicates how "the big fish eat the little fish and so on *ad infinitum*." I. M.

THE CONTROL OF PUERPERAL SEPSIS.*

The primary object of this Memorandum on the Control of Puerperal Sepsis, issued by the Ministry of Health, is to explain the nature of puerperal sepsis, how it is spread, and how to identify and group the streptococci responsible.

Welfare authorities are empowered, with the sanction of the Minister of Health, to make provision for the special treatment of women suffering from puerperal pyrexia, for consultation with an obstetric specialist, for skilled nursing, or for institutional accommodation. Everything possible should be done to meet the requests of medical practitioners for special assistance for women suffering from serious pyrexia.

The increased knowledge of the nature and sources of puerperal infections gained during recent years, provides a firmer basis for administrative action than has hitherto been available.

The Ministry has evidence that this knowledge is not being applied either in maternity institutions or in domiciliary practice with the promptitude and purpose required to prevent the spread of infection. Outbreaks of puerperal infection in institutions, attributable in part to the lack of appreciation of the dangers of the position and the need for immediate action, still occur. In domiciliary midwifery practice ill-advised steps are frequently taken, and a midwife is sometimes suspended needlessly or for an unduly long period. In addition to the dislocation of

the midwifery service which results, unnecessary anxiety and personal inconvenience are caused both to the patient and to the midwife.

It has been shown that the most dangerous puerperal infection—infection with hæmolytic streptococci—is rarely, if ever, due to latent infection of the vagina before parturition. It is brought to the genital tract from outside sources at the time of confinement or shortly after. The streptococci, which give rise to puerperal fever, belong to the same serological group and exhibit the same division into serological types as those responsible for scarlet fever, tonsillitis, adenitis, otitis media, cellulitis, etc. Their chief habitat is the human upper air passages, and it is thence through a variety of agencies—fingers, instruments and possibly even the air—that puerperal infection is derived. The ideal environment for the parturient woman is one from which all carriers of hæmolytic streptococci are excluded, but there are so many apparently healthy human carriers, and streptococci are so easily transferred from one person to another, that the ideal is impossible of achievement. In large measure, however, the risk of infection with the most dangerous strains can be removed by the elimination from the environment of all persons with inflammatory conditions of the upper air passages caused by or favouring the multiplication of hæmolytic streptococci.

There is a sufficient volume of evidence now available to indicate how the risks to the parturient woman may be minimised by the intelligent use of bacteriological methods.

The question has to be considered from two standpoints: (1) In the absence of puerperal pyrexia; (2) on the occurrence of puerperal pyrexia.

In the absence of puerperal pyrexia, swabbing of the midwife in attendance should not be undertaken, unless she shows signs of an acute or chronic inflammatory condition of the tonsils, pharynx, nose or middle ear. Every midwife should be instructed to report any symptom of such a condition at once, whereupon she must be suspended from duty and swabs must be taken for bacteriological examination.

To prevent future hardship, candidates for training as pupil midwives should be examined clinically, and those suffering from a chronic infection of the tonsils or sinuses with hæmolytic streptococci, should be advised that a persistent disability of this character is likely to preclude them from engaging in the practice of midwifery.

On the occurrence of puerperal pyrexia, steps should be taken at once to ascertain the cause of the rise of temperature, and until the existence of infection of the genital passages with hæmolytic streptococci has been excluded, the attendant contacts must not conduct a labour or nurse any other puerperal woman. Recent experience has shown clearly that whenever there is streptococcal infection of the body of the uterus the organisms will be present in the vagina. If the infection is limited to the vagina or perineum (though it very rarely is), there is nothing gained, but the contrary, by passing a swab into the cervix uteri. A vaginal swab should therefore be taken in every case of puerperal pyrexia, unless the practitioner can be quite certain that the fever is not due to infection of the genital tract. This involves the examination of a large number of swabs—many of which will not yield hæmolytic streptococci.

If the vaginal swab yields hæmolytic streptococci—the report should be available in 24 hours—an attempt should be made to ascertain whether any of the attendants was the possible source of infection. To this end, swabs should be taken from the nose and throat and from any skin lesion of the doctor or midwife who was in attendance on the patient during her confinement or subsequently. If, however, streptococcal infection of the patient is suspected from the outset, swabs from the attendants

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