(Donohue, Playfair, and Whitaker, 1955). However, the latent period before the appearance of encephalitis and the occasional absence of meningeal symptoms and of cerebrospinal pleocytosis (as shown by the case reported here) do not support this view, and favour a primarily encephalitic process rather than a spread from the meninges.

The clinical resemblance between mumps encephalitis and the encephalitis which may follow measles, varicella, and rubella, and the fact that the histological appearances of perivascular demyelination are common to them all, suggest that they arise from the same pathological process (Miller, Stanton, and Gibbons, 1956). The nature of this process is unknown, but it may be a non-specific allergic reaction to virus protein (Miller and Evans, 1953), and similar lesions have been produced experimentally by the injection of brain material with adjuvants (Lumsden, 1949).

Summary

Previous reports on the neurological complications of mumps are reviewed. Lymphocytic meningitis is not uncommon, and recovery is full in a few days. Encephalitis is extremely rare, and has a mortality of 20%.

Eighteen cases of meningitis and one of encephalitis arising in an epidemic of 287 cases are described. The meningitic cases occurred only during the latter part of the epidemic.

The aetiology of the neurological sequelae is briefly discussed. Meningitis may well be due to the emergence of strains of viruses of increased neurotropism during an epidemic.

We wish to thank the Director of Medical Services, R.A.M.C., for permission to publish.

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Medical Memorandum

Advantages of "Polythene" Ring Pessaries

The advances achieved in surgical technique and, more particularly, in the art of anaesthesia in the past twenty years have made the surgical repair of genital prolapse the ideal method of treating this common disability. However, in spite of these advances there are some women whom it would be too great a risk to subject to an operative cure. We find this group to constitute less than 3% of the total number of patients with symptoms caused by a genital prolapse. A second group of patients complaining of genital prolapse, on whom a surgical repair is not immediately desirable, are the women of child-bearing years who have either been recently delivered or are about to embark on another pregnancy. A third group of patients refuse to undergo a surgical repair. These three groups can have their symptoms relieved by the fitting of a ring pessary into the vagina.

The ideal ring pessary should possess the following properties. (1) It should be made of a substance that is inert and produces no tissue reaction that will lead to a malignant change in the vaginal walls and no offensive vaginal discharge. (2) It should be sufficiently compressible to introduce through a small vaginal introitus, yet possess enough elasticity to regain its shape when introduced into the vagina, and it should not alter in shape or in its physical properties with prolonged use. (3) It should be technically easy to manufacture and cheap to produce.

The many varieties of material from which ring pessaries have been constructed can be divided into those of the pre-plastic era and those of the plastic era. The former group are the rubber watchspring pessary and the vulcanite pessary. The watchspring pessary is compressible, but it produces an offensive vaginal discharge. The vulcanite pessary has both the disadvantage of incompressibility and the property of producing leucorrhoea. Pessaries made from the many varieties of plastics can be constructed of compressible material or a plastic that is for practical purposes incompressible.

The flexibility of plastics such as P.V.C. depends on the presence of a plasticizer. The majority of plasticizers are toxic to tissues when in contact with them for any length of time and may induce a malignant tissue response. A plasticizer with a low vapour pressure, such as dioctylphthalate, does not produce a tissue reaction. It has, however, the disadvantage of escaping from the material with which it has been mixed, and brittleness and loss of flexibility follow.

Pure polythene, however, is chemically almost inert and has been buried in living human tissues for long periods of time without producing any toxic reaction. It is, furthermore, sufficiently flexible and compressible to use as a pessary and firm enough to support the vaginal walls and uterus in a genital prolapse. The material does not lose its flexibility whilst in the vagina. We have had experience of using the pessaries for three years in the vagina without any apparent physical change occurring in the material. The management of the cases treated with polythene pessaries does not vary from pessaries of other materials.

Patients are examined every three months, the vaginal walls are inspected for evidence of ulceration, and the pessary is washed and replaced.

Polythene is made in a number of different grades which, chemically speaking, differ only in their molecular weight. There is very little variation in the physical properties between different grades except at temperatures up to 100° or below 0° C. In particular the modulus of elasticity which determines the flexibility of the product is much the same for all grades at normal temperatures. The only advantage of using a grade of higher molecular weight is that it can be boiled without danger of deformation. From the manufacturer's point of view, however, the light molecular weights are easier to mould. For these reasons the choice of grade is not very important. A $\frac{1}{4}$ in. (0.6 cm.) diameter cross-section provides the necessary flexibility and at the same time is thick enough to support the vaginal walls yet will not cause ulceration.

Cost.—The polythene pessary is cheaper to manufacture than the rubber-ring pessary and its life is infinitely longer; while a rubber ring has a life of only six months at the most, a polythene pessary retains its shape, smooth surface, and flexibility for years.

We are indebted to Mr. D. Annat, M.P.S., chief pharmacist, Stoke Mandeville Hospital, for negotiating the original samples of plastic and polythene and organizing the supplies of the polythene pessaries from the manufacturers, Portland Plastics Ltd., Hythe, Kent.

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