procedure. It may be tempting to conclude that subsequent passage of a calculus after ureteric catheterization is a consequence of the manœuvre, but such a conclusion is unjustified.

There may be a place for giving osmotic diuretics, such as intravenous infusions of urea. The "stone basket" for extracting the calculus has limitations: its use is restricted to calculi in the distal third of the ureter, and in the patient with impacted stone—the very case that may require the most careful and precise treatment—it is frequently impossible to get the basket beyond the stone, and injudicious manipulation may be followed by damage to the ureter and subsequent stenosis of it. Whatever method is employed for the management of ureteric calculi, patients should remain under regular surveillance, for recurrent calculi are apt to develop in about 20% of cases.[9]

## Irradiation of Food

In answer to a parliamentary question on 4 July Mr. Kenneth Robinson, Minister of Health, announced that he and other Ministers concerned had accepted the Report of the Working Party on Irradiation of Food.[1,2] Regulations will now be introduced under the Food and Drugs Act to prohibit the irradiation of food and food products intended for human consumption, and the sale in this country of food which has been irradiated. But this legislation will in fact result in the setting up of machinery for obtaining official approval for specific processes. A scrutinizing body will be established to advise on applications for exemptions from the prohibition. The equivalent of a "permitted list" might appear, as is the case with certain classes of food additives.

Similar prohibitive legislation was made in the Federal Republic of Germany in 1959 and is under consideration in other countries. Another approach to legislation is to invoke existing regulations such as those governing food additives, with or without explicit mention of irradiated foods or definition of food irradiation as a food additive. In Canada two irradiated foods have already been approved for human consumption, potatoes and onions, and the requests for approval were dealt with under the food additive regulations. The first commercially operated food irradiation plant, situated near Montreal, began operation in 1965, and is used for the treatment of potatoes to inhibit sprouting. Food irradiation is also dealt with as a food additive in the U.S.A., where wheat, potatoes, and bacon have already been cleared by the Food and Drug Administration, although no fully commercial processes are yet operating. However, a pilot plant for the disinfestation of grain by irradiation has been completed there, and another is planned in Turkey.

International organizations are studying legislative procedures in different countries so as to give guidance on international trade in irradiated products, and a joint report on the technical basis for legislation has just been published.[3] In the meantime research into various aspects of food irradiation will continue in Great Britain,[4] with particular interest in processes aimed at extending the refrigeration life of meat and fish and at the elimination of salmonellae from certain imported foods.[4]

[1] *Report of the Working Party on Irradiation of Food*, 1964. Ministry of Health, H.M.S.O.
[2] *Brit. med. J.*, 1964, **2**, 1088.
[3] *The Technical Basis for Legislation on Irradiated Food*. Report of joint F.A.O./I.A.E.A./W.H.O. Expert Committee, 1966. H.M.S.O.
[4] *Brit. med. J.*, 1964, **1**, 1330.

## Boric Acid and Babies

Boric (or boracic) acid and borax (sodium borate) may cause serious harm to infants, and many deaths have resulted from their use. Now a statement from the British Medical Association is published this week (p. 233) advising doctors not to prescribe them for infants.

The symptoms of intoxication are diarrhoea and vomiting, cramp, haematemesis, melaena, a red beefy rash covering the entire body, and peripheral circulatory failure. Necropsy shows cloudy swelling of the kidney, central necrosis of the liver, and haemorrhagic enteritis.[1] It is easy to see how the diagnosis of gastro-enteritis could be made because of the diarrhoea and vomiting when in fact the symptoms are due to boric acid poisoning. When in doubt a simple test should give the answer. The urine is acidified by dilute hydrochloric acid, and turmeric paper is inserted; the paper becomes red, changing to dark green on adding ammonia or dilute sodium hydroxide.

R. B. Goldbloom and A. Goldbloom[2] described four cases of boracic acid poisoning and reviewed 109 others. The overall mortality was 55%, but in infants under 1 year old it was 70%. They emphasized that there may be considerable absorption from broken surfaces and mucous membranes. L. C. Wong and colleagues[3] reported more recently on 11 infants who accidentally received boric acid in the diet. Five of them died. These authors, as others have done, question whether boric acid is of sufficient therapeutic value to justify these occasional grave mishaps. The 1966 edition of the *British National Formulary* includes borax glycerin, *B.P.C.*, in the "Dental Practitioners Formulary," and boric acid ear drops, *B.P.C.* for "the later toilet of the ear."

Borax glycerin is a highly dangerous preparation to put in a baby's mouth because of the absorption from the mucous membrane. Mothers soak the dummy in this mixture for so-called teething, and its use for this purpose should be stopped. In any case the use of glycerin or similar material on a dummy is thoroughly undesirable for older babies, because of its disastrous effect on their teeth. There is in fact no place for any local application to palliate the troubles of teething. It seems unlikely that boric acid ear drops for the toilet of the ear will present danger, but their value is at least questionable. There is the ever-present danger that someone will attempt to treat acute otitis media with ear drops instead of giving an antibiotic, such as penicillin, by injection or by mouth.

Boric acid crystals should never be sprinkled on to the napkin for the treatment of a napkin rash because of the serious risk of absorption. Nor, for the same reason, should napkins be washed out in boric acid solution. Boric acid should not be applied in any form to a napkin rash except only as a constituent of dusting powder: 5% boric acid in talc is not absorbed through the intact skin.[4-6] This substance is added to the powder to neutralize the alkalinity due to the

[1] Brooke, C., and Boggs, T., *Amer. J. Dis. Child.*, 1951, **82**, 465.
[2] Goldbloom, R. B., and Goldbloom, A., *J. Pediat.*, 1953, **43**, 631.
[3] Wong, L. C., Heimbach, M. D., Truscott, D. R., and Duncan, B. D., *Canad. med. Ass. J.*, 1964, **90**, 1018.
[4] Fisher, R. S., *Lancet*, 1954, **2**, 494.
[5] Vignec, A. J., and Ellis, R., *Amer. J. Dis. Child.*, 1954, **88**, 72.
[6] Johnstone, D. E., Basila, N., and Glaser, J., *J. Pediat.*, 1955, **46**, 160.
[7] Fergusson, A. G., Fraser, N. G., and Grant, P. W., *Brit. J. Derm.*, 1966, **78**, 289.
[8] Warin, R. P., and Faulkner, K. E., ibid., 1961, **73**, 445.