

Year	1962	1963	1964	1965	1966	1967	1968	1969	1970
Anencephaly rate	1.82	1.78	1.73	1.66	1.65	1.56	1.47	1.50	1.51

for 1970, and this followed a low potato blight year, 1969.

Dr. J. H. Renwick's table of the figures for 1962-9 (20 January, p. 172) (taken from mid-February to mid-February and including live-born anencephalics), which are already corrected for regression of -0.06, show this same constancy. His diagram, which shows no zero, magnifies the small annual variations in the incidence of anencephaly in comparison with those for blight.

In view of this uniform rate of decline in anencephaly it is unlikely that the marked annual variation in the percentage of blighted potatoes, or indeed any other agent which shows marked annual variation, could be making a substantial contribution to the incidence of anencephaly. If there were one main environmental agent responsible for anencephaly it must be something that has been steadily declining in strength over the decade.—I am, etc.,

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SIR,—Scottish statistics on anencephaly have been extensively quoted in epidemiological studies in recent years, most recently by Dr. J. H. Renwick,¹ who correlated the stillbirth rate from anencephaly in Scotland with the presumed teratogenic insult from blight in the susceptible areas in the west of Scotland. He estimated that the incidence of blight was moderately severe in 1950 and 1953 and found that the stillbirth rate from anencephaly was higher in 1951 and 1954 than in other years. The table below gives the stillbirth rate from anencephaly in Scotland from 1947 to 1956 arranged according to the parity of the mother. It shows that the overall rate per 1,000 total births increased from 2.4 in 1950 to 2.7 in 1951. It was higher in 1st and 5th+ pregnancies but lower in 2nd, 3rd, and 4th pregnancies. In 1954, while the overall rate was higher than in 1953, the rise occurred in 2nd and 3rd pregnancies and a slight fall occurred in 1st and 5th+ pregnancies. These trends were repeated inside each social class. Analysis of the same data by the age of the mother, using the technique of the five-years moving average, shows that the rate rose in the 15-19 age group from 1947 onwards, in the 20-24 age group from 1952, and in the 25-29 age group from 1958.

In his more recent letter (20 January, p. 172) Dr. Renwick makes a similar comparison for England and Wales in the years 1961-8 and draws similar conclusions although the rates are lower and the variations much smaller. If a teratogen acting during pregnancy, such as potato blight, is so important as to be responsible for 95%

of the deaths from anencephaly, one would expect that it would act on women of all ages and parities alike in the years in which its concentration had reached dangerous levels. The fact that the stillbirth rate from anencephaly was rising from 1950 onwards in Scotland even in the years when blight in the previous year was negligible also raises doubt as to the probability of a causal relationship.—I am, etc.,

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¹ Renwick, J. H., *British Journal of Preventive and Social Medicine*, 1972, 26, 67.

Gastric Ulcer after Highly Selective Vagotomy

SIR,—Mr. A. Hall's report (30 December, p. 789) on gastric ulcer after highly selective vagotomy is important, and a reminder of the unknown outcome of this operation despite the encouraging early reports from Leeds and Copenhagen. I have no reason to doubt the rationale of this procedure and no cause for complaint in observing the progress of almost 100 patients treated in my unit. Nevertheless I do not think this operation should be generally adopted at this stage.

Mr. Hall reports postoperative secretion studies, which are of interest but would have been even more valuable if compared with preoperative tests. A proper assessment of the operation demands good facilities for measuring gastric function as well as a reliable follow-up. Unless this can be done we are in danger of discarding operations with known results in favour of a fashionable technique whose true value may be missed by inadequate appraisal. Not long ago a distinguished Continental surgeon described our gastric surgeons as "individualists, each of whom had his own branch of the vagus which he divided or preserved according to his ideas." We could improve our image by exercising some patience until the way is clear.—I am, etc.,

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SIR,—I was interested to read Mr. R. Hall's letter (30 December, p. 789) regarding a case of benign lesser curve gastric ulcer following proximal gastric vagotomy (highly selective vagotomy) without drainage done apparently for basal duodenal and pyloric channel disease.

Three years ago I began using proximal

gastric vagotomy for duodenal ulceration, preserving the prepyloric vagal supply to 5-6 cm. One patient developed later a benign lesser curve gastric ulcer, and gastric retention was shown using the food/barium meal. A gastroenterostomy was done later to drain the antrum and to cure the ulcer. Amdrup (personal communication) had a similar case, also with retention.

Preservation of the vagal supply to 5-6 cm from the pylorus invites gastric retention and benign lesser curve gastric ulcer. I think that Amdrup in Denmark and Hedenstedt in Sweden, as well as Johnston and myself in this country, are retaining much more innervated stomach and all choosing the same point of preservation. This is in fact the point that Holle in Munich has used for many years. It is easily chosen above the point where the main anterior nerve of Latarjet crosses the lesser gastric curve. About 8-9 cm of stomach remains innervated and food/barium studies show that there is no retention post-operatively in the absence of organic stenosis in the pyloric canal or in the duodenum.

Damage to the nerves of Latarjet may too, of course, cause gastric retention and benign lesser curve gastric ulcer, and great care is needed at operation to protect these nerves.—I am, etc.,

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Radiography of Potentially Pregnant Females

SIR,—It is to be hoped that a full discussion of this subject will be prompted by the letter from Drs. G. M. Ardran and F. H. Kemp (18 November, p. 422). Ultimate agreement on the responsibilities of clinician, patient, and radiologist within an accepted scheme for avoiding this hazard would be an ideal conclusion.

The code of practice issued by the Department of Health¹ states that radiological examinations involving the lower abdomen should, if practicable, be carried out within the first 10 days following the first day of the menstrual period. The practical difficulties of a strict application of a "10-day rule" are considerable. The clinical staff of the Aberdeen hospitals discussed this matter with the radiologists in 1967. While accepting their responsibility for ensuring that patients who might be pregnant were not referred for x-ray unless absolutely necessary, the clinicians could not give a guarantee to include invariably the date of the last menstrual period on the request form. The radiologists undertook to ascertain the date of the last menstrual period in cases of booked appointments occurring some time after the original request; they felt that a rigid application of a "10-day rule" for outpatients was virtually impracticable. The system which has been in force for the past five years is, in effect, a "28-day rule." It applies to outpatient appointments for barium examinations, intravenous pyelography, and micturating cystography previously booked on all female patients (married or unmarried) aged between 15 and 50 years. This simply means that the date of the last menstrual period is obtained by a nurse and/or radiographer and transmitted to the radiologist when the patient arrives at the x-ray department.

Pregnancy	Stillbirth Rate from Anencephaly per 1,000 total births (Scotland)									
	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956
1st	2.1	2.7	2.2	1.8	3.1	3.7	3.6	3.3	2.6	3.1
2nd	1.4	1.6	1.5	2.2	1.8	1.6	1.7	2.8	2.1	2.3
3rd	2.2	2.1	2.6	2.8	1.8	1.9	2.4	2.8	2.9	2.9
4th	2.5	3.3	2.3	3.4	2.6	3.6	3.1	3.1	3.5	3.2
5th	4.2	4.1	2.3	3.8	4.4	3.5	2.8	2.6	4.5	3.3
All	2.2	2.5	1.1	2.4	2.7	2.9	2.8	3.0	2.9	2.9

Should the patient appear to have missed one menstrual period a fresh appointment is given 7-14 days ahead; the patient is provided with a pre-paid form addressed to the radiologist, whom she notifies in due course whether or not menstruation has occurred. In the latter event the x-ray examination is cancelled and the general practitioner or consultant so informed. The actual number of cases in which rebooking is required has been very small. This system is not ideal in that it does not prevent the possible irradiation of a 10- to 18-day fetus; it does, however, safeguard an older fetus and offers minimal delay and inconvenience for all concerned.

It would be of great value in this discussion to have comments on the following:

(1) What are the views of the clinicians and radiologists on the strict application of the "10-day rule"? Is it possible to apply it to non-emergency inpatients without plunging hospital wards and radiology departmental administration into chaos?

(2) Ideally all fertile female patients who are to receive irradiation to the lower abdomen should be given the opportunity of considering a possible pregnancy. Are clinicians willing to accept a method such as that suggested by Drs. Ardran and Kemp which depends on a prior consultation between clinician and patient in every case?

(3) Failing this, is a system as described above and operated solely by radiologists acceptable?—I am, etc.,

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¹ Department of Health and Social Security, *Code of practice for protection of persons against ionising radiations arising from medical and dental use*. London, H.M.S.O., 1972.

Vitamins in Illness

SIR,—In "Any Questions" (2 September, p. 582, and 30 December, p. 786) the question whether vitamins should be given in acute illness, or at other times, is discussed.

At the meeting of the Nutrition Society on 7 December 1972¹ a paper was read showing that elderly people in a large hospital had an average vitamin C level of 12.5 $\mu\text{g}/10^8$ W.B.C., confirming earlier work.^{2,3} Last winter a Medical Research Council team reported that over one-third of elderly people, in and out of hospital, in South Wales had vitamin levels of 0.2 mg per 100 ml plasma, or 15 $\mu\text{g}/10^8$ W.B.C., or below this level (personal communication).

Recent work in the United States^{4,5} showed that haemorrhages around hair follicles begin after 26 days of complete deprivation of vitamin C in young men previously given large amounts of vitamin C. Haemorrhages on the under surface of the tongue began a few days later. The perifollicular skin haemorrhages are regarded by the American authors as "almost pathognomonic of scurvy." They began at plasma levels of vitamin C at or above 0.2 mg/100 ml, corresponding to 15 $\mu\text{g}/10^8$ W.B.C. These skin haemorrhages occur often in 20% of elderly hospital patients in Britain. Sublingual haemorrhages are even more frequent (personal findings). Blood levels of vitamin C at or below 15 $\mu\text{g}/10^8$ W.B.C. are very common in elderly people in Britain. Low levels of vitamin B₁ are frequently found with low vitamin C levels.³ According to the Depart-

ment of Health,⁶ elderly people eat much the same kind of food as the general population, though in smaller quantities.

Tetracycline, and possibly other antibiotics, cause a fall of vitamin C in the blood, often to below 15 $\mu\text{g}/10^8$ W.B.C. The levels of some of the B group of vitamins in the blood also fall when tetracycline is given.⁷ Some hospitals give supplements of vitamin C and the B group of vitamins to all patients. The evidence now available suggests that this should be a universal practice, so that in illness, at least, all people have the recommended daily allowance of vitamin C and the B group of vitamins. Recent Canadian⁸ and Scottish surveys⁹ suggest that much larger amounts of vitamin C, 1 g. daily, may reduce the days lost by illness by 30% and reduce the incidence and duration of the common cold, as Linus Pauling has suggested.¹⁰—I am, etc.,

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- Andrews, J., Atkinson, S. J., Ridge, B. D., and Wyn-Jones, C., *Abstract of Communications: Nutrition Society Meeting*, December, 1972.
- Kataria, M. S., Rao, D. B., and Curtis, R. C., *Gerontologia Clinica*, 1965, 7, 189.
- Brocklehurst, J. C., et al., *Gerontologia Clinica*, 1968, 10, 309.
- Hodges, R. E., Baker, E. M., Hood, J., Saubert, H. E., and March, S. C., *American Journal of Clinical Nutrition*, 1969, 22, 535.
- Hodges, R. E., Hod, J., Canham, J. E., Saubert, H. E., and Baker, E. M., *American Journal of Clinical Nutrition*, 1971, 24, 432.
- Stephen, J. M. L., *Health Trends*, 1972, 4, 76.
- Windsor, A. C. M., Hobbs, C. B., Treby, D. A., and Cowper, R. A., *British Medical Journal*, 1972, 1, 214.
- Anderson, T. W., Reid, D. B. W., and Beaton, G. H., *Canadian Medical Association Journal*, 1972, 107, 503.
- Charleston, S. S., and Clegg, K. M., *Lancet*, 1972, 1, 1401.
- Pauling, L. C., *Vitamin C and the Common Cold*. San Francisco, W. H. Freeman, 1970.

Staffing of Accident and Emergency Departments

SIR,—I would like to support the suggestion made by Dr. P. A. M. Weston (13 January, p. 114) that a period of training in an accident and emergency department would be a valuable prerequisite to the entry to general practice. Approaches to the Royal College of General Practitioners and the B.M.A. in the past on the possibility of making this an essential (as it is with the Royal College of Surgeons) have been turned down because of inadequate organization and lack of instruction in many departments.

An essential feature of making such a condition to entry to general practice would be a system of inspection and registration of accident and emergency departments recognized for this purpose. This, if properly carried out, would provide the strongest possible stimulus to improvements in the facilities and management in these departments as a means of ensuring job satisfaction and proper staffing. Another benefit might well be the closure of many existing casualty departments where there was no justification for pursuing the required standard.—I am, etc.,

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Shortage of Radiologists

SIR,—Owing to an impossible work load on radiologists in the Plymouth clinical area there have had to be reductions in the ser-

vice provided. This has included the closing of the radiodiagnostic department to general practitioners, though chest x-rays can still be obtained through the chest clinic. Because of this a meeting of general practitioners passed the following resolution: "The meeting regrets and protests at the withdrawal of general practitioner radiological facilities in the Plymouth area and considers this an unnecessary hindrance to the delivery of normal general practitioner services. The meeting proposes that a system of rationing of radiological services be introduced immediately, whereby individual general practitioners may request a limited number of x-rays each week."

In the light of the above and the fact that there are 70 unfilled radiologist posts in the country I have been asked to write to you urging that the Association use every means available to bring this need to the notice of the Department of Health and Social Security with a view to rectifying the situation as soon as possible.—I am, etc.,

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Working of the Mental Health Act

SIR,—My attention has been drawn to the article by your legal correspondent (30 December, p. 800) dealing with the case of V.E. (Mental Health Patient).¹ I write as chairman of the tribunal stating the case in this particular matter. There is one matter of interest to your readers which became apparent during the course of the hearing but appears only as a side issue in the three judgements.

Section 4 of the Mental Health Act 1959 lays down a statutory definition of "mental disorder" which I understand is rather different from the usual clinical definition adopted by psychiatrists. It is necessary to classify the form of mental disorder into one of various categories, *all of which are mutually exclusive*. Thus a patient must be stated to be suffering from any one of the classifications set out in section 4 of the Act—namely, "mental illness," "arrested or incomplete development of mind," "psychopathic disorder," and "any other disorder or disability of mind." "Arrested or incomplete development of mind" is subdivided into "severe subnormality" and "subnormality."

For the purpose of section 25, a patient who is suffering from any form of mental disorder of a nature or degree which warrants the detention of the patient in hospital under observation may be detained for a limited period for observation. Under section 26 only those patients who are classified as suffering from four specific types of mental disorder—namely, "mental illness," "severe subnormality," "subnormality," or "psychopathic disorder"—may be detained for treatment. Of these forms of mental disorder, only "mental illness" is not defined by the Act; however, for the reasons given above, if the form of disorder comes within the definition of "psychopathic disorder" the patient cannot be classified as suffering also from "mental illness," unless the patient is at one and the same time suffering from two quite separate and distinguishable forms of mental disorder.

The statutory definition of "psychopathic disorder" (namely, "a persistent disorder or disability of mind . . . which results in . . .