

the non-attenders at clinics and their reasons, or to follow up cases that should have been referred from hospitals. Because conditions are bad the health visitor staff is continually changing.

A good health visitor (they are better than "public health nurses," because they have some midwifery and are better able to deal with family situations) is a truly wonderful person. She is able to sense the situation before the baby gets battered. She can advise about the control of cockroaches one day, on granny's enema on another, and on the behaviour of the teenage daughter on yet another. The fact is her approach through practical, physical factors makes her acceptable. She is not associated with any particular detrimental situation. She can provide a routine, continuing source of supervision and support, and can call in experts in special fields as needed. Not all health visitors are angels. Some have been preconditioned by hospital training where nurses are too authoritarian to their patients and to their juniors, and too subservient to their seniors. Others take up the work mainly because of regular hours and living at home. In the present tragic state of health-visitor shortage some who are unsuitable or who need more postgraduate experience and supervision are employed for lack of better personnel.

The value of domiciliary work has been proved repeatedly and in many countries. The doctors who have been trained almost entirely in institutions have very little concept of how much they have to learn and to give when the domiciliary and family conditions are appreciated. The present increase and popularity of social workers is of course bound to happen in a country where statistics show a great improvement in health and longevity. Many of the existing problems are now those of behaviour and responsibility, some of them created by permissiveness and the Welfare State.

The training of *assistantes sociales* in France has much to recommend it. The fact that they all receive a basic year or two in hospital is a good starting-point, though I must admit that some of the subsequent training and use of these workers is wasteful. The present situation, both in the rich and in the poor countries, calls for great expansion and improvement in the health-nurse and home-nurse services. This is the policy that would lead to the greatest improvement in health—physical, mental, and social—and economies in medical manpower and hospital facilities. The situation calls for a more realistic approach by doctors, politicians, and administrators.—I am, etc.,

London S.E.24. CICELY D. WILLIAMS.

Malabsorption and Surgery

SIR,—In his helpful and interesting contribution Mr. C. Wastell (14 September, p. 661) omitted to mention other water-soluble vitamins of the B group. These are normally absorbed in the duodenum and upper jejunum, which may be chronically inflamed in association with peptic ulcer, for which total gastrectomy or extensive resection of the stomach may be undertaken. I have seen pellagra following such operations in several patients, in some of whom it may be necessary to give the vitamin supplements

parenterally, and in this respect these patients resemble the chronic alcoholic, in whom oral administration of full vitamin supplement fails to prevent pellagra. It is of interest, too, that in Britain pellagra tends to be more florid in exceptionally sunny summers such as 1949 and 1959.—I am, etc.,

E. J. MOYNAHAN.

Department of Dermatology,
Guy's Hospital,
London S.E.1.

Plasma Volume in Macroglubulinaemia

SIR,—We were interested to read the discussion of a case of macroglubulinaemia in the clinicopathological conference (27 July, p. 237).

There may be some relevance in observations we made on the following case of a man whose illness we followed for four years prior to his death in 1964 at the age of 46 years. The clinical pattern approximated most closely to the group of macroglubulinaemia associated with a cold agglutination syndrome. Cold haemolysins had been first noted in 1950. The level of plasma globulin rose from 3.0 g. to over 7.5 g./100 ml. between 1960 and 1964. Electrophoresis revealed a compact band in the gamma-globulin area, and immunoelectrophoresis showed a very large increase of $\gamma M(\beta_2M)$ macroglobulin (Dr. J. Kohn). An unusual feature of the terminal 18 months of his illness was intractable headache, which led us to measure his blood volume. In August 1964 the following results were obtained:

Plasma Volume		
Coomassie Blue		
Method ¹	6.8 l.	= 90 ml./kg. body weight.
¹²⁵ I H.S.A. Method	6.7 l.	

Red Cell Volume
(By calculation from venous P.C.V.) 2.0 l. = 26.5 ml./kg. body weight.

(Ranges of plasma and red cell volume for normal adult males are 43.6 ± 5.79 and 30.1 ± 5.74 ml. per kg. body weight respectively.² Our patient weighed 75 kg.)

At this time his haemoglobin level was 5.7 g./100 ml. and the packed cell volume 22%, and it is evident that increased plasma volume was mainly responsible for these marked reductions. These findings indicated that the total amount of circulating globulin was over 500 g., or, using the estimate of Gabuzda,³ a total body pool of approximately 750 g. at the serum globulin level of 7.5 g./100 ml. The histological findings in the case were lymphocytoid infiltration of the marrow. Death was due to cerebral haemorrhage as a part of a generalized haemorrhagic diathesis developing one month after the blood volume studies. Post-mortem histology did not add to the known pathology of the case.

We wish to raise the possibility of a plasma-expanding effect of massive globulinaemia. Hobbs⁴ based his calculations on an arbitrary plasma volume of 60 ml./kg. body weight, purposely high to make allowance for the anaemia which was common in his series. Actual measurements of the plasma volume in macroglubulinaemia appear to have been few. Our data would suggest that the use of an arbitrary plasma volume in calculations of protein pools relevant to the rate of evolution of gammopathies could be quite

misleading. Furthermore, a knowledge of actual alterations in plasma volume may help to clarify certain clinical problems such as the need for transfusion or plasmapheresis, and the response to cytotoxic therapy.—We are, etc.,

St. Helier Hospital, Carshalton, Surrey. CEDRIC HIRSON.
St. Thomas's Hospital, London S.E.1. IAN S. MENZIES.

REFERENCES

- Menzies, I. S., *J. clin. Path.*, 1966, 19, 179.
- Brady, L. W., Cooper, D. Y., Colodzin M., McClenathan, J. E., King, E. R., and Williams, R., *Surg. Gynec. Obstet.*, 1953, 97, 25.
- Gabuzda, T. G., *J. Lab. clin. Med.*, 1962, 59, 65.
- Hobbs, J. R., *Brit. med. J.*, 1967, 3, 699.

Cancer and Asbestos

SIR,—Your leading article on "Cancer and Asbestos" (24 August, p. 448) drew attention to the rise in the percentage incidence of intrathoracic malignancy in males dying with asbestosis in Great Britain from 19.7 in 1924–40 to 54.5 in 1961–3. It was also noted that the mean age at death in cases of malignancy associated with asbestosis "remained almost constant between 54.3 and 57.6 years" over the period 1924–63.¹ Over this same period the number of cases, in males, dying with intrathoracic malignancy in England and Wales rose persistently and this malignancy formed an increasing proportion of deaths from all causes especially within the age groups between 50 and 64 years.² The increase in the percentage incidence of intrathoracic malignancy in asbestotics between 1924 and 1963 might be due in some measure to the increased incidence of this cause of death in the general male population of England and Wales surviving beyond the age of 50 years, and in part to a change in the incidence of intrathoracic malignancy in the asbestotic population.

Examination of copies of the death certificates, of males dying with asbestosis, held by the Factory Department of the Ministry of Labour showed that between 1931 and 1965 (both years inclusive) there were 452 certificates relating to men who had died between the ages of 30 and 79 years. The deaths in each calendar year were divided into five-year age groups from 30–34 years to 75–79 years, and, from the appropriate data in the annual Statistical Reviews,² the number of expected deaths from intrathoracic malignancy was calculated for each age group. It was thus possible to arrive at an estimate of the number of deaths from intrathoracic malignancy to be expected in successive time periods. The numbers of expected and observed deaths from intrathoracic malignancy associated with asbestosis for these time periods are shown in the Table.

Time Period	1931–40	1941–50	1951–60	1961–65
Total deaths with asbestosis ..	62	91	141	158
Intrathoracic malignancy:				
Observed cases ..	12	20	43	59
Expected cases ..	1.64	5.0	14.84	17.95
Ratio of expected to observed cases ..	7.3	4.0	2.0	3.3

In each time period there was an excess of observed deaths over the expected deaths.

The ratio of the expected deaths to the observed deaths was not constant in successive time periods, but showed a fall from 1:7.3 in 1931-40 to 1:3.3 in 1961-65. As the magnitude of this ratio can be regarded as a measure of the increased risk of developing intrathoracic malignancy when asbestosis is present, it would appear that this risk had been more than halved between 1931-40 and 1961-5, though the risk of an asbestotic developing an intrathoracic neoplasm in 1961-5 would appear to be about three times that when no asbestosis is present. Conclusions based solely on information contained in death certificates must be suspect because of incompleteness and inaccuracy of the information contained in an unknown number of the certificates. There is no doubt that the number of deaths, recorded with asbestosis as a cause of death in the decade 1931-40, fell short of the number of actual deaths to which asbestosis contributed, but there is good reason to believe that the gap between the actual and the recorded deaths with asbestosis has narrowed considerably in recent years. It is probable that fewer cases of intrathoracic malignancy have escaped detection, before death and at necropsy, in recent years than in 1931-40. The ratio of expected to observed deaths with intrathoracic malignancy in 1931-40 might have been higher than the calculated ratio of 1:7.3.

The evidence provided by the study of data on death certificates and that produced by Knox and his colleagues² indicate that the increased risk of developing intrathoracic malignancy, either because of the presence of asbestosis or because of a prolonged exposure to asbestos dust, has diminished since 1933, when measures of dust control became effective in at least some working areas of asbestos factories.

I wish to thank Dr. T. Lloyd-Davies and Dr. W. D. Buchanan, of the Factory Department of the Ministry of Labour, for giving permission for me to examine, and for making readily accessible, the copies of death certificates of cases of asbestosis in the possession of the Department. I also wish to thank Dr. J. F. Knox for allowing me to see the data included in the paper in press by Knox, Doll, and Hill.³—I am, etc.,

J. BEATTIE.

Queens' College,
Cambridge

REFERENCES

- ¹ Buchanan, W. D., *Ann. N.Y. Acad. Sci.*, 1965, 132, 507.
- ² General Register Office, *The Registrar General's Statistical Review of England and Wales*, Part 1, Tables, Medical, 1931 and yearly to 1965. H.M.S.O., London.
- ³ Knox, J. F., Doll, R. S., and Hill, I. D., *Brit. J. industr. Med.*, in press.

SIR,—Your leading article on cancer and asbestos (24 August, p. 448) refers to the detection of asbestos bodies in the sputum of about 50% of males in certain industrial cities. To the best of our knowledge nobody has actually reported on this, and we think therefore that you have accidentally substituted the word "sputum" for "lung smear," since Anjilvel and Thurlbeck,¹ on whose work you base your statement, were reporting on lung smears from necropsy material.

In view of your interest in the subject, may we mention, while writing, that the same authors state in their article that no particular association was noted between asbestos bodies in the lungs and the presence of cancer

in the 33 patients in the series with malignant disease? They also state: "It is clear that asbestos bodies are not more common in patients with malignant disease in the autopsy populations we have studied, and thus casual exposure to asbestos is not an important cause of malignancy in the general population."—I am, etc.,

W. P. HOWARD,

Secretary,
Asbestosis Information Committee.

London W.1.

REFERENCE

- ¹ Anjilvel, L., and Thurlbeck, W. M. *Canad. med. Ass. J.*, 1966, 95, 1179.

Elderly in the Wrong Unit

SIR,—We were most interested here in the paper "The Elderly in the Wrong Unit," by Dr. A. G. Mezey and others (6 July, p. 16), and in the subsequent letter from Dr. Bernard Isaacs (10 August, p. 373).

We agree wholeheartedly with the need for the comprehensive psychogeriatric unit as stressed in the paper and previously by Kay, Roth, and Hall.¹ We have been impressed by the large area of overlap in management problems between the ostensibly "psychogeriatric" and the ostensibly "pure geriatric" patients, and are currently investigating this problem in the Leicester area. Readers may be interested that in this mental hospital the geriatric work has been gathered into a self-contained unit (as has the work of other psychiatric subspecialties). As a step towards full integration with the area geriatric service a consultant geriatrician, who is not a psychiatrist, has been appointed to the staff and will commence his appointment on 1 November 1968. He will spend more than half his time working in our geriatric unit and the remainder of his time in the area geriatric service. A new assessment ward has been opened for him, and it will be most interesting to see how the pattern of admission develops in the various units in his charge.—I am, etc.,

Carlton Hayes Hospital, NORMAN KAYE.
Narborough, Nr. Leicester.

REFERENCE

- ¹ Kay, D. W. K., Roth, M., and Hall, M. R. P., *Brit. med. J.*, 1966, 2, 967.

Research into Mental Retardation

SIR,—The establishment of an Institute for Research into Mental Retardation in this country has been a welcome advance in a field of study which is now receiving more attention than ever before.

In recent years the number of specialists dealing with mental subnormality (mental deficiency in Scotland) has increased. There is as yet no national professional association entirely devoted to mental retardation, although there are regional societies for the study of the subject and relatively small sections of some professional organizations concerned with the specialty. The time may be ripe for the formation of a British Association on Mental Retardation, comparable perhaps to the American Association on Mental Deficiency.

At present hospitals and specialists working in mental retardation in different areas of the country tend to work in isolation although

they have generally similar clinical and administrative problems to meet. Today, as the approach to mental retardation becomes increasingly multi-disciplinary, a large number of specialists, geneticists, biochemists, neurologists, paediatricians, orthopaedic surgeons, psychologists, and others have a contribution to make in the diagnosis and management of mental retardation. A British Association on Mental Retardation open to all the specialists with an interest in it would appear to be a natural, logical, and essential development in the evolution of provision for the mentally retarded.—I am, etc.,

Stansfield View Hospital, D. A. SPENCER.
Todmorden, Lancs.

Obstructive Airways Disease

SIR,—The findings reported by Drs. D. J. Lane, J. B. L. Howell, and Mr. B. Giblin (21 September, p. 707) confirm previous reports by Park¹ and by others of reduced sensitivity to carbon dioxide in patients with chronic airways obstruction. However, this phenomenon does not exclude Park's suggestion that the initiation of CO₂ retention is by mechanical impairment of ventilation. Although the PCO₂ does not correlate negatively with the magnitude of airway resistance,² there is evidence that superadded restriction of ventilation is important in the development of chronic hypercapnia. Thus raised PCO₂ levels have been found to be related to reduced lung compliance,³ spirometric evidence of ventilatory restriction,^{4,5} and an inefficient rapid and shallow breathing pattern.⁶—I am, etc.,

J. J. SEGALL.

Islington Chest Clinic,
London N.19.

REFERENCES

- ¹ Park, S. S., *Amer. Rev. resp. Dis.*, 1965, 92, 245.
- ² Astin, T. W., and Penman, R. W. B., *Amer. Rev. resp. Dis.*, 1967, 95, 567.
- ³ Kahana, L. M., Aronovitch, M., and Place, R., *Amer. Rev. resp. Dis.*, 1963, 87, 699.
- ⁴ Segall, J. J., and Butterworth, B. A., *Scand. J. resp. Dis.*, 1966, 47, 215.
- ⁵ Palmer, K. N. V., and Diamant, M. L., *Lancet*, 1968, 1, 1233.
- ⁶ Burrows, B., Saksena, F. B., and Diener, C. F., *Ann. intern. med.*, 1966, 65, 685.

Computer Analysis of Dental Surveys

SIR,—As a footnote to your recent series of articles on "Medicine and the Computer,"¹ I should also like to point out that during the past few years the computer has played an increasingly important part in dental research. This is especially true in the field of dental epidemiology, where with the aid of these machines detailed results of surveys can be obtained in a matter of days as compared with several months, if not years, if the results are processed by hand.

Dental clinical data may be prepared by collecting the information on a clinical chart in the usual way, coding this information on to an abstract sheet, and finally punching cards from this sheet. Nevertheless, this method is time-consuming and necessitates considerable storage space to house the various documents. To speed up this process, increase the accuracy, and reduce the number of documents involved, a special set of punch cards has been designed.