Passive Immunization Against Chicken-pox

Passive immunization by the injection of preformed antibody is practised against a variety of virus diseases. Two kinds of preparation are used—firstly, human normal immunoglobulin, derived from normal donors, and, secondly, human specific immunoglobulin, derived from convalescent donors, which contains increased amounts of antibody against a specified disease.1 Human normal immunoglobulin is available from blood transfusion centres in Britain, but human specific immunoglobulin is in very limited supply. Chicken-pox is one of the mildest of the childhood fevers, and in most cases there is little reason to seek a means of immunization against it. But it can occasionally be a severe and even fatal infection, so that passive immunization may have a useful—if occasional—role against it as well as against the other virus diseases for which this form of prophylaxis is more often used. Passive immunization with human normal immunoglobulin modifies but does not prevent an attack of chicken-pox.2 Children treated in this way developed the disease as often as controls but had fewer skin vesicles and lower temperatures. The modifying effect was greatest when doses of 0·6 ml. per lb. body weight (1·3 ml. per kg.) were given, but there was some slight modification of the disease even among children who received doses of only 0·1 ml. per lb. (0·2 ml. per kg.). Recently P. A. Brunell and colleagues in New York have shown that chicken-pox may be prevented by inoculation with human specific immunoglobulin prepared from donors who were recovering from herpes zoster.4 The human anti-zoster globulin was given within three days of exposure to one of two children in six families in which a third child had developed chicken-pox. The remaining child in each family was given human normal immunoglobulin as a control. None of the six children given human anti-zoster immunoglobulin developed either clinical chicken-pox or antibody to varicella-zoster virus. In contrast, all six children treated with human normal immunoglobulin developed chicken-pox and four showed rising titres to varicella-zoster virus.

There is clearly no indication for this form of passive immunization when normal healthy children are exposed to chicken-pox, but there is an increased risk of a serious outcome when certain types of patient contract the disease. Children suffering from leukaemia or being treated with steroids or antimitabolites have an increased susceptibility to chicken-pox and are especially liable to develop a severe infection.5

Like other childhood fevers, chicken-pox tends to be more severe in adults, and the adult disease may be accompanied by pneumonia.6,7 Chicken-pox pneumonia varies in severity from a serious illness which may be fatal to a mild or even symptomless complication. Four cases of fatal chicken-pox have been described in pregnant women.8 Though this suggests that pregnancy may sometimes predispose to severe attack, other studies have described cases of chicken-pox during pregnancy which were generally mild, and the risk seems no greater than in any adult who contracts the disease.9,10 Fortunately varicella-zoster virus does not seem to cause congenital anomalies in the foetus, but it occasionally gives rise to severe disseminated disease in the newborn.11 In these various circumstances, where there are factors known to predispose to the development of severe chicken-pox, prompt administration of human anti-zoster globulin after known exposure to chicken-pox may prevent infection. In established cases of severe chicken-pox—which are also seen occasionally in patients in whom there are no apparent predisposing factors,12,13—treatment with human specific immunoglobulin or, if this is not available, human normal immunoglobulin may reduce the severity of the disease.

Psychiatric Aspects of Multiple Sclerosis

There is still some confusion about the prevalence and nature of psychiatric changes in patients suffering from multiple sclerosis. Euphoria and hysteria are words commonly found in English studies, both suggesting prominent affective changes, whereas the Continental tradition has concentrated much more on the intellectual loss. D. Surridge1 and his psychological colleague K. L. Jambor2 have recently reinvestigated the subject. Their study is based on examination of 108 patients in the department of neurology at Oxford. To avoid diagnostic doubts all patients were excluded who had been ill for less than two years, and an upper age limit of 40 was imposed in order to exclude climacteric mood changes and intellectual loss from other dementias. The control group was made up by 39 patients suffering from muscular dystrophy, which also causes chronic progressive paralysis but does not affect the central nervous system.

The patients were all seen in their home or normal place of residence for lengthy clinical and psychological examination. Jambor's tests included various parts of the Wechsler adult intelligence test, the Babcock sentences, and so on, and he used as controls not only the patients with muscular dystrophy but also some normal persons and some psychiatric patients. Surridge and Jambor's results are quite unequivocal, and they strongly confirm the Continental view of the importance of intellectual deterioration. Two-thirds of their patients showed the typical patchy dementia with impairment of conceptual thinking and perseveration that is sometimes known as the chronic amnestic syndrome or the chronic brain syndrome. None of the patients suffering from muscular dystrophy showed evidence of dementia.

The second important finding concerns the affective changes. One-quarter of the patients showed depressive

6 Haggerty, R. J., and Eley, R. C., Pediatrics, 1956, 18, 160.
10 Knyvette, A. F., Quarterly Journal of Medicine, 1966, 55, 313.
11 Sargent, E. N., Carson, M. J., and Belky, E. D., California Medicine, 1967, 107, 141.
17 Gordon, J. E., American Journal of the Medical Sciences, 1962, 244, 562.
Front-seat Hazards

Windscreens are made of either laminated or toughened glass. The laminated sort is also known as safety glass, but it has the dangerous characteristic of breaking with sharp edges, spikes, and corners. Toughened glass has the disadvantage that impact may cause the whole screen to craze and become opaque, but when it breaks it forms small, roughly cubical fragments with much less formidable cutting power than the broken edge of "safety" glass. Nevertheless, it can do enough damage to require several hours of patient and painstaking trimming and stitching on the face and forehead. The fragments sometimes become embedded and they have also been inhaled, but from Australia\(^1\) comes an account of five examples of deep penetration of the frontal region of the brain by pieces of glass from toughened windscreens. The authors did not find any previous reports of this dramatic injury, which they think occurred when the face was driven downwards on to the edge of the glass that had already been broken by the forehead. These injuries underline the importance of impressing on the junior staff of accident and emergency departments the fact that any wound caused by more than moderate violence may have led to surprisingly large and unexpected foreign bodies being deeply embedded through disproportionately small openings. This does not apply only to the head or to road accidents.\(^2\) Intelligent suspicion that is not allayed by suitable radiographic examination demands carefully planned exploration.

Manufacturers are well aware of the dangers and shortcomings of toughened and safety glass. One way to overcome the dangers of the broken screen is to make it capable of being ejected intact on impact, another is to increase the thickness of the intermediate layer of laminated glass so as to increase its resistance to penetration by allowing it to bulge on impact.\(^3\)

Dangerous as the windscreen may be it is only one of the causes of injury of the face and head in vehicles. W. Gissane and J. P. Bull\(^4\) found that of 216 persons killed while occupying the front seats 31 had been injured by the windscreen, 40 by the roof, and 106 by the dashboard and related parts. The head may also be injured by contact with other parts of the vehicle and when the occupants are thrown out.\(^5\) They found also that 21% of the occupants of the front seats were injured by contact with the windscreens and its surrounding\(^6\) and that 63% of drivers and 72% of other occupants of front seats had severe injury of the brain.\(^7\) The full importance of head injuries in vehicles is more clearly shown by the official record that injuries of the skull and associated parts accounted for 44% of the 2,666 fatal accidents.\(^8\)

The lesson is clear, but it is still ignored by the 75% or so of motorists who either do not have or do not use seat belts. The arguments against them break down in the face of the clear evidence\(^8\) that safety belts very rarely cause serious injury if they restrain the upper part of the trunk as well as the hips, if they are correctly fitted in the vehicle, and if they are not only worn but correctly worn on all journeys, however short and at however low speeds.

Diagnostic Tests for Advanced Cancer

A single test on blood or urine that will confirm or exclude the presence of cancer anywhere in the body is nowadays regarded as a pipe dream. Tumours of different sites differ too widely to allow the detection of a common feature distinguishable in patients with cancer but not in persons without. Nevertheless the increasing availability of methods for rapidly measuring levels of normal and abnormal constituents of blood and urine, together with computerized data-processing equipment, suggests that it may be timely to look again—not for a single, all-embracing test but for associations between patterns of normal and abnormal constituents and neoplasms of specific types.

There are several different reasons why abnormalities in body fluids may be associated with cancers. Unusual proteins may be the result of neoplastic transformation by viral or chemical agents. Foetal antigens may reappear in undifferentiated tumours. Poorly vascularized tumours may provide a suitable breeding-place for a variety of passenger organisms, and these, non-specifically, may give rise to abnormal constituents in the blood and urine. Necrosis of

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5. Widman, J. C., communication to the mid-year meeting of the Society of Automotive Engineers (Chicago May 17–21, 1965). New York.