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. 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. 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. 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.

Like other childhood fevers, chicken-pox tends to be more severe in adults, and the adult disease may be accompanied by pneumonia. 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. 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. 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. 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—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. Surridge and his psychological colleague K. L. Jambor 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...
features, which seemed to be mainly reactive to the condition
as perceived by the patient. None of the depressed patients
denied their disability, and intellectual loss was slight or
absent. The same incidence of depression was found in the
patients with muscular dystrophy, emphasizing the extent to
which the affective change is an understandable reaction to
physical disability. On the other hand, the classical euphoria
was highly significantly correlated with intellectual loss and
denial of disability.

Established cases of multiple sclerosis thus frequently show
evidence of organic dementia—as would indeed be expected
from neuropathological studies such as those by B. Brownwell
and J. T. Hughes. How early these psychological changes
might occur cannot be deduced from the Oxford studies, since
patients were examined only once and well on in the disease,
nor could the authors say whether these changes might
fluctuate with time, as the physical symptoms do in some
cases.

The importance of these findings lies in their relationship
to rehabilitation and retraining. The degree of organic
psychological dilapidation is a strong limiting factor for the
success of rehabilitation. In particular, patients who are
obviously euphoric should be regarded as probably demented
unless proved otherwise, and hope for successful rehabilitation
must be appropriately guarded.

Front-seat Hazards

Windscreen 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 pain-
taking trimming and stitching on the face and forehead. The
fragments sometimes become embedded and they have also
been inhaled, but from Australia comes an account of five
examples of deep penetration of the frontal region of the
brain by pieces of glass from toughened windscreen. 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 import-
ance of impressing on the junior staff of accident and emer-
gency 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.\textsuperscript{2-4}
Intelligent suspicion that is not allayed by suitable radiographic
examination demands carefully planned exploration.

Manufacturers are well aware of the dangers and short-
comings of toughened and safety glass. One way to over-
come 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.\textsuperscript{5}

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\textsuperscript{6} found that of 216 persons killed
while occupying the front seats 31 had been injured by the win-
dscreen, 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.
They found also that 21\% of the occupants of the front seats
were injured by contact with the windscreen and its surround-
ing\textsuperscript{a} and that 63\% of drivers and 72\% of other occupants
of front seats had severe injury of the brain.\textsuperscript{8} 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.\textsuperscript{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\textsuperscript{a} 10-12 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 distin-
guishable 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 pro-
teins 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 abnor-
mal constituents in the blood and urine. Necrosis of