for grafting should bear in mind the need for other organs such as livers, pancreases, and hearts. More than a third of the 15-20 livers transplanted yearly in Britain come from generous donations in Northern Europe, but the cost of transportation is considerable. In America and Holland doctors who take part in extra work concerned with the donation of organs are paid personally, or the fee is given to the institution. Such an idea might be re-examined in Britain. The amount spent on such extra-duty payments would be far less than the cost of keeping patients on dialysis.

Some countries have opted for new legislation on organ donation from dead donors, the diagnosis of death, and the removal of organs from live volunteers. In Britain the Human Tissue Act 1961 was drafted at a time when organ transplantation was not practised. The Act has not been tested in law, and certain ambiguities have caused disquiet in the profession. The present law is a combination of "opting in" and "opting out." If the deceased's wishes are known the next-of-kin is approached to determine what those wishes would have been (not to ask the relatives' consent). If the next-of-kin is not available removal of organs may be undertaken provided that there is no objection from the coroner, who can order removal of organs in any case under his authority without being challenged by the relatives or anyone else.

An interview with the relatives when no donor card has been found can be extremely distressing, particularly if the patient's death is sudden and unexpected. Often, and especially in the case of children, it is impossible to discuss the question of organ donation with relatives in time for the organs to be used. Yet frequently when the immediate shock has passed off the relatives come forward too late and ask whether the organs can be used for grafting, or later regret that they were not used. Many people would rather not discuss these matters but would prefer that the organs should simply be taken and used for transplantation. Such a procedure would be similar to a coroner's necropsy, in which the relatives are not asked to consider the details. In countries where there is a complete opting-out system, such as France, Austria, and Denmark, the relatives are not ignored. Despite the fact that the law does not require it, if the relatives are available and can be approached without adding to their distress the doctors will still discuss the matter of organ donation and will not violate the wishes of the next-of-kin. Various opting-out schemes have been suggested by which objectors to organ grafting could register their names and those of their dependants on a central computer that would always be contacted before organs were removed from a dead person. If the deceased's name or that of his family was not recorded through the computer doctors could assume that there was no objection to organ removal.

Even if most of the population favoured an opting-out system or an assumed consent powerful voices would no doubt be raised by a minority claiming yet another incursion on personal liberties. A government already troubled by other matters might be reluctant to introduce new legislation, but without government support a change in the law is unlikely. And even if the law were to be changed there would be little improvement in organ donation unless the good will and confidence of the public and profession were restored. The facts should speak for themselves. Organ transplantation is an essential part of the treatment of renal failure and other life-threatening disorders and the supply of donor organs must be improved. Britain has a proud record of generous help for those suffering and in need and this charitable tradition should be preserved.

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Pregnancy and immunological disorders

The mechanisms by which the fetal homograft escapes immunological rejection continue to fascinate immunologists and have still not been fully worked out.^{1 2} The maternal circulation is in direct contact with the syncytiotrophoblast lining the chorionic villi of the placenta, and it is the permeability of the syncytiotrophoblast to cells and soluble factors that determines the extent to which the maternal immune system becomes sensitised to fetal antigens and fetal immune reactions affect immunological events in the mother. Even if such traffic does not usually lead to rejection of the fetus, it may nevertheless influence maternal immune reactions.

Does pregnancy induce some measure of maternal immunosuppression? Some laboratory work has suggested some depression in the responses of maternal lymphocytes to mitogens. This suppression has been attributed to immunosuppressive factors in the serum during pregnancy, such as alpha-2-glycoproteins³ and hormones, rather than to intrinsic defects in lymphocytes. These observations are, however, controversial—not least because of simple technical points such as the variation that depends on whether the assays are performed in plasma or serum.⁴ Furthermore, the lymphocyte responses are not generally accepted as being suppressed in pregnancy or physiological concentrations of hormones such as progesterone, oestrogens, and corticosteroids as being immunosuppressive.⁵ Specific immune responses are not the only host defence factors to have received attention in this context; for example, granulocyte chemotaxis is also reported to be depressed by serum from pregnant women.⁶

One means of judging the extent of maternal immunosuppression is to examine the course of infectious diseases in pregnancy. Most virus infections do not produce unusually severe disease in pregnancy and are not accompanied by loss of the fetus,⁷ but immune responses to some viruses, and in particular to cytomegalovirus and rubella virus, are impaired. This deficiency is not, however, absolute. Thus in one study no evidence of rubella virus infection was found in the fetuses of mothers immunised with attenuated live rubella virus.⁸ Nevertheless, the risks of an unusually severe infection cannot be discounted in pregnancy; for example, meningitis and septicaemia after infection with *Haemophilus influenzae* type B have been reported in pregnancy, complications usually observed only in children.⁹ In addition, clinically silent viral infections may be detected only serologically but may have pathological consequences for both the mother and the fetus. For example, there is some suggestion that fetal abnormalities may be more frequent in mothers who have acquired Epstein-Barr virus infections during pregnancy,¹⁰ and in another study a high or rising serum antibody titre to BK polyomavirus was detected in 45 of 430 pregnant women.¹¹

Given these uncertainties, the clinical effects of pregnancy

on immunological disorders might be expected to be equally unresolved—and they are. Few objective studies have compared the fluctuations of immunological disorders during pregnancy—a time of careful clinical surveillance—and during periods of similar length in non-pregnant patients with the same disorders. Rheumatoid arthritis probably remits during pregnancy, and the disease activity may rebound during the postpartum period.¹² Such remissions may be attributable to immunosuppressive factors in the serum during pregnancy or to the immunological influence of the fetus. Possibly suppressor lymphocytes of fetal origin cross the placenta and act as a temporary fetal graft to reverse the putative deficiency of suppressor cells that allows autoimmune disease to be established.¹³ Systemic lupus erythematosus, a disease widely thought to be associated with suppressor defects, provides a good test for this hypothesis. Unfortunately clinical observation confounds such theoretical predictions. In a recent study 24 pregnancies were observed in 18 women out of a group of 250 patients with systemic lupus erythematosus.¹⁴ Thirteen of these patients had active disease at conception and it remained active in 11; 11 patients had inactive disease and the disease became active in only one of them during pregnancy. Other similar studies have shown that exacerbation of the disease and fetal loss are more likely to occur in mothers with active lupus and renal disease in the six months before pregnancy¹⁵ and that the real threat during pregnancy is pre-eclampsia complicating renal disease.¹⁶ These observations suggest that pregnancy does not drastically alter the pattern of disease.

There is little evidence that pregnancy produces a predictable change in the pattern of more common immunological diseases or poses special problems in their medical management. Twelve out of 77 pregnant women with hyperthyroidism in one series¹⁷ lost their baby, but management of the disease did not present any special problems and the hyperthyroidism responded to conventional drug treatment. Similarly, pregnant patients with bronchial asthma do not show any obvious change in the incidence or pattern of their attacks.¹⁸ These observations make the practical point that the usual vigilance must be maintained in managing immune disorders in pregnant patients since the effects of pregnancy are unpredictable. Rarer forms of immunological disorders, such as polyarteritis nodosa¹⁹ and thrombotic thrombocytopenic purpura,²⁰ may present in pregnancy, producing diagnostic problems. The commoner disorder herpes gestationis, a disease thought to be peculiar in pregnancy, has the immunopathological features of immune complex deposition on the dermal basement membrane²¹ and may be associated with more widespread immune disorders.²² Circulating immune complexes have been considered a normal finding in pregnancy. Theoretically such complexes could exacerbate pre-existing immune complex diseases by binding to receptors on lymphocytes, thereby affecting immune regulation, or by adding to the burden of immune complexes generated. By no means all investigators, however, accept that circulating immune complexes are a feature of normal pregnancy.²³

Clearly, clinicians must handle the diagnostic and management problems of immunological disorders in pregnancy on their own merits and must not prejudice the clinical course. In the mean time further clinical and laboratory observations are needed of immunological diseases during pregnancy and an appropriate control period.

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Late delivery of "BMJ"

We are proud of our tradition of providing readers with their *BMJ* by the weekend. Unfortunately, punctuality has been thwarted in recent weeks by a series of events outside the Editor's control. In January and February first bad weather and then rail strikes seriously affected deliveries. More recently, some machinery failures have dislocated production schedules and, despite the determined efforts of our printers, delays have occurred. We apologise to readers and assure them that every effort is being made to restore our traditional service.