streptokinase in clearing pulmonary emboli, it is surprising that the group do not discuss the possibility that an effect on venous thromboembolism might account for their haemodynamic findings and for part of the favourable effect on mortality. Finally, there was a definite and inexplicable difference in the size of the heart at six months between the groups, fewer of the patients given lytic treatment having enlargement of the heart.

The study group is to be commended for its ability to mount such a trial, but the low randomisation rate, the uncertainty about the comparability of the two groups, and the clinical and laboratory complexities inherent in any effective and well-controlled lytic regimen will limit the practical impact of the study on doctors caring for patients with acute infarction. If, however, the mechanisms which underlie the apparent effect of streptokinase on mortality—and especially on late mortality—can be discovered and can be produced by less demanding regimens, then a real advance will have been made.

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Privacy, epidemiology, and record linkage

The vast publicity given to the unexpected and serious side effects of practolol testified to the extent of public interest in toxicity from drugs as well as industrial chemicals. That incident also showed that, despite exhaustive tests in animals and a national reporting system, a serious adverse effect to a new drug may occur on a substantial scale before it is recognised. Indeed, extrapolation from in vitro tests and animal studies to man seems likely always to be fallible. Nor, with the present body of theoretical knowledge, can we accurately predict the occurrence and incidence of toxic effects in man to a given chemical. For the foreseeable future, the best safeguard will be the collection of reliable data on exposure to chemical agents of all kinds and illness in man.

This implies record systems that make possible the linkage of information into personal cumulative files—because records on exposure and on illness are often widely separated in time and usually stored in different places. The creation of such files often meets with vigorous opposition on the grounds that the individuals concerned have not consented to the use of information about them for this purpose, or that the existence of such files may place unacceptable power and opportunity for abuse in the hands of the custodian—particularly if this should be a government department.

The National Cancer Institute of Canada recently sponsored a workshop to mark the retirement of H B Newcombe, the originator of an ingenious and effective method of linking personal records by computer. In Canada a computer-based index of deaths for the last 27 years is available (under stringent safeguards for privacy) for linkage with data about exposure of individuals to various agents. The workshop was shown preliminary results of the use of this file. A hypothesis that isoniazid is not carcinogenic was tested by linking the files of 64 000 people treated for tuberculosis since 1952 with the mortality data, and the scope of the system for environmental monitoring was shown by extracting and linking the occupational records of a 10% sample of the Canadian work force. In the United States a computer-based index of about 20 million deaths each year will be available for epidemiological research from the beginning of 1980.

What of the fears about privacy? One outstanding feature of the workshop was its session on this theme, with contributions from a judge of the Supreme Court of Ontario, a trade union official, and a civil servant. Though there were differences in emphasis, all the participants thought that rigorous safeguards for privacy could be provided without putting epidemiological research in chains. A contributor from the United States said that pressure was growing in Congress to remove some of the obstacles that the Privacy Act of 1974 had placed in the way of the solution of environmental health problems by epidemiological means.

Here in Britain H B Newcombe's method of record linkage has been applied successfully for many years in the Oxford Record Linkage Study and in Scotland. The Office of Population Censuses and Surveys uses a manual method of record linkage in its 1% longitudinal study and for following cohorts of people in respect of death and the development of cancer. All are yielding useful results, though in the OPCS cancer study the sample size is too small to help much in monitoring the effects of environmental chemicals. It would be ironical if these systems—which have helped to keep Britain in the van of epidemiological research—were threatened by the current financial cuts or by a restrictive Data Protection Act, when in North America similar systems are now beginning to receive priority and satisfactory solutions to the issues of privacy may be at hand.

Creeping spurge

Not everyone will know what creeping spurge is: could it be a progressive paralysis of sheep, or perhaps a term used in Scotland for misty drizzle? In fact, it is one of the common names for *Euphorbia myrsinites*, a plant of Mediterranean origin which now creeps around greenhouses and rock gardens throughout the United States. When broken, its thick central stem exudes a milky latex. Children like to play with this sap and to rub it into their skin and on their toys; and in so doing they can cause some spectacular eruptions.

The reactions in a recent North American epidemic[1] were so fierce that the patients turned up at a poisoning control centre rather than at a skin clinic. Alarming swellings and blistering, usually on the face, appeared from two to eight hours after exposure, and mostly cleared over the next four days. Twenty patients with reactions to spurge were seen over three years and Spoerke and Temple[1] believe that many additional cases were missed through lack of familiarity with the clinical picture—but this is always a problem with plant reactions. Indeed, how many doctors (let alone members of the public and their children) are familiar with the 4000 or so species of spurges (*Euphorbia* spp)? Many of these are common weeds living inconspicuously in the general greenness of the countryside. Most contain a milky sap which may be highly irritant, and this property has been used for purposes as

diverse as branding cattle and treating warts. Oils from some species—for example, croton—were formerly used as overdrastic purges.

Even if the offending plant is eventually identified, as in the American cases, the exact nature of the reaction may remain a puzzle, for plants attack the animal kingdom in a variety of ways. The possibilities that have to be considered include mechanical or chemical irritation, phototoxic reactions, and true allergic sensitisation.

Mechanical irritation from spines, thorns, and specialised bristles is usually obvious. Some plants combine this with chemical irritation. *Mucuna pruriens*, for example, the itch plant, is a member of the bean family whose seed pods are covered with short barbed spicules: these are the main ingredient of itch powder so popular with practical jokers. The itch is actually caused by a proteolytic enzyme, mucunain, studies of which have greatly advanced our knowledge of the physiology of itching.[2]

Phototoxic reactions are caused by contact with a photosensitising compound, usually a psoralen similar to those used in the photochemotherapy of psoriasis, followed by exposure to sunlight. The mechanism is not immunological, so that reactions can occur on first exposure. Blisters may form, and the residual pigmentation may last many months. Notorious offenders include the Umbelliferae (which cause reactions among celery harvesters, carrot processors, and those in contact with giant hogweed) and the Rutaceae, such as the gas plant and the bergamot orange. Although the creeping spurge eruptions were bullous and mainly on exposed parts, phototoxicity seems to be unlikely with the Euphorbiaceae.

An allergic contact dermatitis is by far the most common reaction to plants. In the United States the rhus group (poison ivy and poison oak) causes more sensitisation than all the other plants put together. The oleoresin content of their sap is such a powerful sensitiser that allergy may follow a single exposure, and over a quarter of North Americans are thought to react to it. In Europe, *Primula obconica* heads the list: about 5% of all women patchtested to it in Copenhagen gave positive reactions. Both rhus and primula eruptions usually consist of linear streaks or patches of erythema and vesication. Reactions to pollen give a quite different picture, with chronic erythema and scaling on the exposed parts, such as the face, neck, and hands, which may mimic a chronic photodermatitis or neurodermatitis, but with exacerbations occurring during the pollen seasons. The pollen of chrysanthemums needs prolonged contact to sensitise, so that allergy often affects florists and horticulturists, with exacerbations occurring in the autumn.

The punishment inflicted by creeping spurge has served to highlight the problems of plant reactions in general. Mechanical irritation and phototoxicity seem unlikely mechanisms, and chemical irritation is the most likely cause, although a contact allergy is still possible, as the authors admit[1]—especially as other members of the Euphorbiaceae can cause true sensitisation.[3] The patients who reacted to creeping spurge were not patchtested to the plant or its extracts, but that is the only way in which allergy and irritation can be separated. Even by using this technique, however, allergic and irritant reactions may look very similar and control patients have to be tested also. Until such testing has been done the mystery of the creeping spurge must remain unsolved.

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Regular Review

Systemic lupus erythematosus: treatment and prognosis

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A 33-year-old schoolteacher had presented at the age of 28 with a two-year history of intermittent joint pains and stiffness in the hands. In addition she had suffered for several years from intermittent migrainous headaches. Some eight years previously she had been investigated for epilepsy and depression.

The only abnormal physical finding was mild flexor tendonitis. Investigations showed a sedimentation rate of 80, a strongly positive antinuclear antibody test, DNA binding values of 80% (Farr technique), a low total haemolytic complement, and high-titre circulating complexes. There was no evidence of renal disease. Systemic lupus erythematosus was diagnosed.

For the next five years she was treated intermittently with non-steroidal anti-inflammatory drugs. She has remained well and at work and has married and had two normal pregnancies. There has been no evidence of renal disease. During that time her DNA binding values have never fallen below 70%, serum immune complex titres have remained high, and total complement levels have fluctuated.

Traditions die hard. The diagnosis of systemic lupus erythematosus (SLE) all too often evokes a set of medical reflexes that include treatment with high dosages of steroids, advice against pregnancy, an assumption that nephritis is an inevitable sequel, and a gloomy prognosis.

During the past two decades the development of sensitive antinuclear antibody tests has contributed to a recognition that SLE is a far commoner and in most patients a milder disease than was once thought.

Present statistics suggest a prevalence of up to 1 in 2000 for women.[1] Nevertheless, in some communities such as black women in the United States, the West Indies, and South Africa the prevalence may be as high as 1 in 250[1 2] and similar