

Long-term urethral catheter drainage

SIR,—On behalf of my coauthors, I wish to thank Sir Eric Riches and Dr S L O Jackson for their comments (24 November, p 1367). In our enthusiasm to persuade others to adopt the domiciliary approach to long-term urethral catheter management we did not stray into an account of alternative measures, some of which are better suited to hospitalised patients. Sir Eric and Dr Jackson have correctly stated that suprapubic drainage can be useful, and agree that Malecot and De Pezzer catheters have been supplanted by modern catheters which were designed for urethral use.

In the case of retention due to trauma or postoperative immobilisation, we would advocate the use of a suprapubic cannula of 8 or 12 gauge of the type made by Porges or Dow Corning. This avoids the risk of urethral trauma, and facilitates multiple attempts at voiding per urethram as the patient improves. It is surprising that this technique is not more commonly employed in neurological or orthopaedic units, at least in the West of Scotland. When permanent suprapubic drainage is chosen we follow the technique described by Sir Eric, inserting a self-retaining catheter at an angle to reduce the risk of leakage. Permanent suprapubic catheters can readily be changed provided that there is no undue delay between the removal of the old and the insertion of the new. Unfortunately some catheters fall out owing to defective balloons, cutting out of the stitch if this technique is used, or other reasons. If this occurs in a patient in his own home, the delay can lead to partial closure of the track, making insertion of a new catheter painful or even impossible.

Dr Jackson describes the use of suprapubic catheters in the younger-chronic-sick ward. The Foley-type self-retaining catheter is certainly better than catheters of the De Pezzer and Malecot types, being less likely to harbour crystals and much easier to remove. Sexually active males who suffer from urinary incontinence may well prefer the condom-type urinal, and in common with others we are involved in attempts to improve existing designs.

This correspondence emphasises the need for tailoring management to suit the individual patient, and indicates some of the differences between hospital and community care. Perhaps it is useful to state that the urodynamic service here provides a vigorous programme for diagnosing and treating urinary incontinence and voiding problems, reducing the need for catheterisation.

ERIC GLEN

Urodynamic Service,
Walton Urological Teaching and Research Centre,
Southern General Hospital,
Glasgow G51 4TF

Incidence of malignant melanoma of the skin in England and Wales

SIR,—Dr A J Swerdlow's article (24 November, p 1324) presents evidence which supports the contention that exposure to sunshine is a factor in the development of melanoma of the skin. As the author notes (p 1327), correlation exercises of this nature are circumstantial in their conclusions, and the influence of additional aetiological factors cannot be disregarded.

Dr Swerdlow's data indicate that the South-western Region has the highest rates of

melanoma in both males and females, and that these rates are much greater than those in the adjacent Wessex Region, where sunshine hours are identical. The SW Region has a correlation coefficient of -0.07 between annual male and female incidences, so a common factor such as sunshine fluctuation may be inappropriate for this area.

I suggest that an alternative factor may account for the high incidence of melanoma in SW England: the distribution of arsenic in the environment. The general association between skin cancer and arsenic is well documented.¹ There is prominently increased risk of skin carcinoma in factory workers in contact with arsenic compounds, and also among patients treated with medicinal arsenicals and pastes. In several parts of the world (for example, Taiwan and Cordoba, Argentina) high levels of arsenic in local drinking water have been related to high skin cancer incidence.

Recent research has now characterised the broad geochemical distribution of arsenic in England and Wales.² There are extensive arsenic anomalies in SW England, where stream sediment levels of over 150 ppm have been found in the regions peripheral to the granite moors. Enhanced levels of arsenic are particularly widespread in Cornwall, and are related in part to past smelting of arsenic-rich ore material. There is some concern about arsenic levels in the water supplies of SW England.³ High arsenic levels in local bedrock is often reflected in the soil chemistry of the region.⁴ In view of our knowledge of arsenic as a potential carcinogen, there is therefore a possibility that the very minute levels of the element in the environment in certain areas are acting as a cumulative risk factor. (Farm workers, who are occupationally prone to skin cancer are more likely to have contact with arsenic-rich soils than other groups, but are also exposed to more UV radiation.)

This view does not invalidate the sunshine hypothesis, and the apparently increased incidence of melanoma in recent years may indeed reflect changes in the sunbathing habit. Alternatively, the secular trend may represent increased ascertainment in registration. There is a case for a more detailed epidemiological survey of melanoma and other skin cancers, particularly in Devon and Cornwall.

PETER CLOUGH

Chemical Laboratory,
University of Kent,
Canterbury CT2 7NH

¹ Hernberg, S, in *Origins of Human Cancer*, ed H H Hiatt *et al*, p 147. New York, Cold Spring Harbor Laboratory, 1977.

² Webb, J S, *et al*, *The Wolfson Geochemical Atlas of England and Wales*. Oxford, Clarendon Press, 1978.

³ Webb, J S, *et al*, *Chemistry in Britain*, 1979, 15, 500.

⁴ Colburn, P, *et al*, *Science of the Total Environment*, 1975, 4, 359.

SIR,—The recent article by Dr A J Swerdlow on melanoma (24 November, p 1324) states that papers by Houghton *et al*¹ and Wigle² provide "further evidence for an induction period of about two years between exposure to sun radiation and the appearance of melanoma," because of a positive correlation with periods of maximum sunspot activity. Both Houghton and Wigle seem to believe that increased sunspot activity leads to increased cosmic ray flux, which in turn decreases atmospheric ozone levels so that more ultraviolet radiation reaches the earth's surface. In fact, the reverse is the case.

During times of high solar activity the sun's magnetic field is enhanced, shielding the earth against cosmic rays, which are charged particles arriving from interstellar space. The cosmic ray flux reaching the earth is therefore reduced. Radioactive carbon dioxide is produced by cosmic ray interaction, and the radiocarbon content of organic bodies is high when solar activity is low. Thus if the original suggestion by Houghton *et al* of a positive correlation with increased cosmic ray flux is correct, the corresponding correlation with the sunspot cycle must be with the minima, giving the shortest induction period a value of approximately half the mean cycle plus two years—that is, seven and a half years.

NICHOLAS P WARREN

Whittington Hospital,
London N19

¹ Houghton A, Munster EW, Viola MV. *Lancet* 1978; 1:759-60.

² Wigle DT. *Lancet* 1978;2:38.

SIR,—The paper (24 November, p 1324) on malignant melanoma and its relationship to sunshine is of particular interest in view of the demonstration that a carcinogen, cholesterol α -oxide, can be formed in human skin from irradiation with ultraviolet light.¹

MAURICE SUTTON

North Middlesex Hospital,
London N18 1QX

¹ Black, H S, and Lo, W, *Nature*, 1971, 234, 306.

Sunshine and malignant melanoma

SIR,—I read with interest the paper of Dr A J Swerdlow (24 November, p 1324). It correlates positively the hours of exposure to sunshine with the incidence of malignant melanoma. A point that he fails to mention is that with increased exposure to sunshine most people, especially females, tend to use increased amounts of suntan preparations. Some of these preparations contain chemicals similar to psoralens, which are thought to cause skin dysplasia and possibly neoplasia. Therefore I wonder if the combination of sunshine and suntan preparations is a causal factor in melanoma rather than exposure to sunshine alone.

A A EPENETOS

Imperial Cancer Research Fund
Laboratories,
Lincoln's Inn Fields,
London WC2A 3PX

* * * We sent a copy of this letter to Dr Swerdlow, whose reply is printed below.—Ed, *BMJ*.

SIR,—It seems a plausible hypothesis that use of suntan preparations containing psoralens might increase the risk of melanoma associated with sunshine. An increase in use of such preparations might explain part of the rise in incidence of melanoma in recent years. However, the case for an aetiological role of suntan preparations in melanoma remains one of analogy, whereas there is fairly strong epidemiological evidence for the aetiological role of sun radiation.

Although recent work indicates an increased risk of non-melanoma skin cancer in patients given oral 8-methoxy-psoralen photochemotherapy for psoriasis,¹ I am not aware of any evidence that psoralens in conjunction with