INDIVIDUAL STUDY

Malignant melanoma

Some cases in general practice and a computer-assisted investigation of incidence and survival

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ONE of the difficulties of investigation in general practice is that an unusual incidence of a rare disease may mean little more than a sampling error. Another difficulty, except in common diseases is obtaining reliable incidence figures.

The practice in which this paper was written contains 9,600 patients, predominately white, British in origin, and of a young age-distribution, as it has been started in the developing areas of a new town.

Nine patients

During the years 1965–1970 nine cases of malignant melanoma were diagnosed and treated.

(1.) Mrs W. born 1921, seen in 1966 with melanoma of the right foot, referred to a local hospital where lesion was excised and histology confirmed. Progress was satisfactory and patient presumed to be alive and well though follow up is not possible as her address is unknown.

(2.) Mrs D. G. born 1931. Presented in 1966 in the 30th week of pregnancy with a lump in the right breast present for one week. She was referred to a teaching hospital for excisional biopsy. On the operating table it was noted that she had a lesion of the left forearm with the appearance of a small malignant melanoma. Histology of the breast lump showed secondary malignant melanoma. She subsequently gave the history that two and a half years previously a raised hairless mole on her right arm, which had been growing for six months, had been excised and said to be benign. She died following premature labour with a stillborn child at 34 weeks. Post-mortem examination showed multiple metasteses in the chest and abdomen.

(3.) Mrs J. A. born 1926. Presented in 1967 with a melanotic lesion about 2·5 cm across on the outer aspect of the right shin, enlarging for a few weeks and mildly irritating. This was excised at a teaching hospital with subsequent endolymphatic radiotherapy. Histology confirmed the diagnosis, and she remains well and in full employment.

(4.) Mrs M. T. born 1926. Presented in December 1968 with acute glaucoma of the right eye from which melanotic material discharged at operation and enucleation was performed. She had first complained of loss of vision in this eye in March 1967 and in the interval had been referred to no less than four consultants on six separate occasions who all considered the lesion due to traumatic cataract and advised no action at present. Histology confirmed malignant melanoma of the choroid and, despite radiotherapy and cytotoxic drugs, she has multiple secondary lesions and is rapidly dying.

(5.) R. E. born 1925, Presented in 1969 with a large pigmented mole of the back of the chest with recent increase in size and central ulceration. Referral to a teaching hospital led to excision. Histology confirmed the diagnosis. The patient had a block dissection of the lymphatic glands of the left axilla and remained well until 1970 when it became apparent there were secondaries in the chest wall and the liver. Death occured in 1971.

(6.) J. H. born 1930. Presented in 1969 with loss of vision in the lower half of the right visual field. Dark opacity seen in the anterior vitreous. The eye was enucleated and melanoma of right ciliary body confirmed by histology April 1969. He rapidly developed liver secondaries from which he died in June 1970.

(7.) R. S. born 1926. Presented in 1970 with a melanotic lesion of the front of the left chest, with recent enlargement and itching. A known bronchitic with obstructive lung disease he had been on steroids for three years. The lesion was excised at a local hospital and the histology was confirmed. The patient shows no signs of lymph spread or recurrence and remains well.

(8.) Mrs M. G. born 1909. She was referred to the practice by an optician for loss of vision in the right

eye which he thought due to a vitreous opacity in 1970. Enucleation of the right eye and histology confirmed the diagnosis of malignant melanoma of the ciliary body. She remains fit and well.

(9.) E. W. born 1947. Referred in 1970 to a consultant for a brown lesion of the limbus of the left eye. This was removed and histology confirmed a malignant melanoma.

Nine cases had thus been observed and the problem was then to discover whether or not this was an accidental finding or could be related to any other observable factor.

Review of the literature

The cases divided into five in the skin and four in the eye, so a search was requested of the *Index medicus* through the Royal Society of Medicine library to find any relevant papers in the last decade on the incidence of melanoma. It is clear that skin lesions are more common and their incidence better documented than eye lesions.

Of the ten papers on eye melanoma consulted, as listed in *Index medicus* in the last 11 years, almost all referred to the report of individual cases and only one, Bryson and Blackhurst (1966), referred to a further paper (Rittino and Kelly) citing 43 cases from the literature and adding one of their own. All the authors regarded the condition as 'rare'.

Mortality from malignant melanoma of the skin had been analysed by Lee and Carter (1970) with the general conclusion that in white people it had been increasing in the U.S.A. from 1,256 (9·3 per million) in 1950, the first year in which the disease was grouped separately in the international classification of deaths, to 2,802 (16 per million) in 1967. During the same period, the rate rose in England and Wales from 5·1 per million to 10·2 per million. The death rate had also risen in Australia (no figures given). An

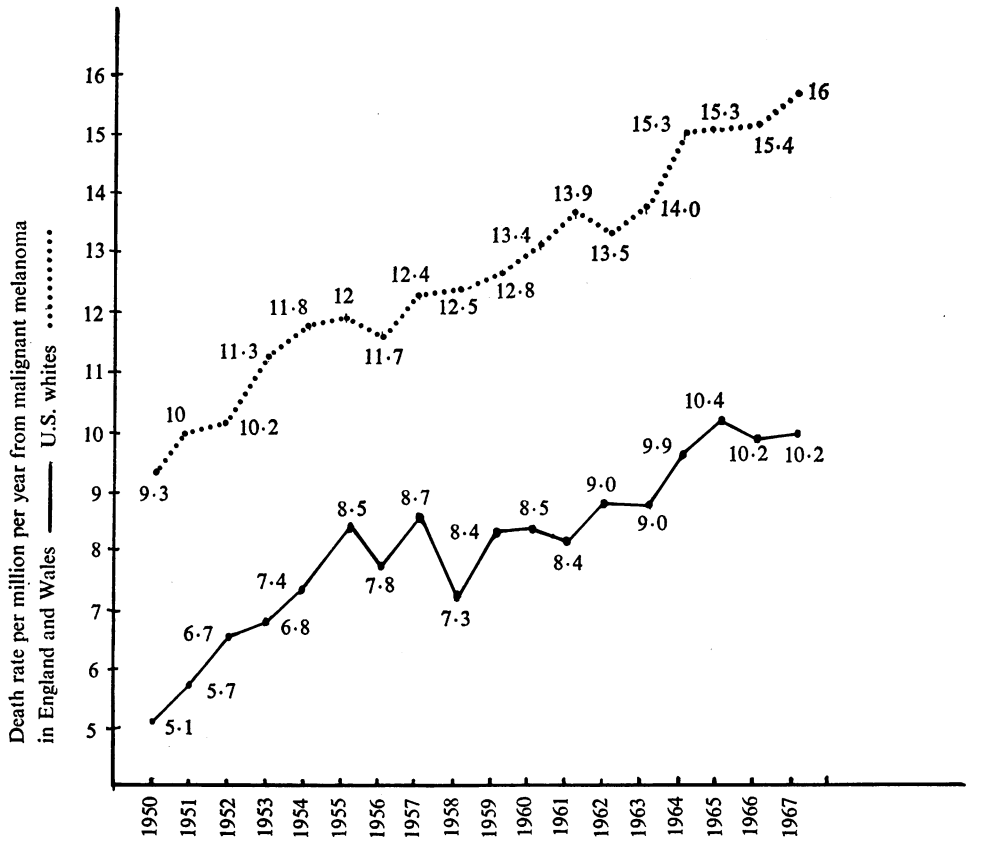

Figure 1

Death rate per million per year (*from the Journal of the National Cancer Institute*)

analysis of the England and Wales' figures shows both a general increase in death rate (figure 1) and also in both sexes an increasing death rate with increase in age (figure 2) reaching a figure of three times the average rate at age 65 and over (figures 1, 2 and 3).

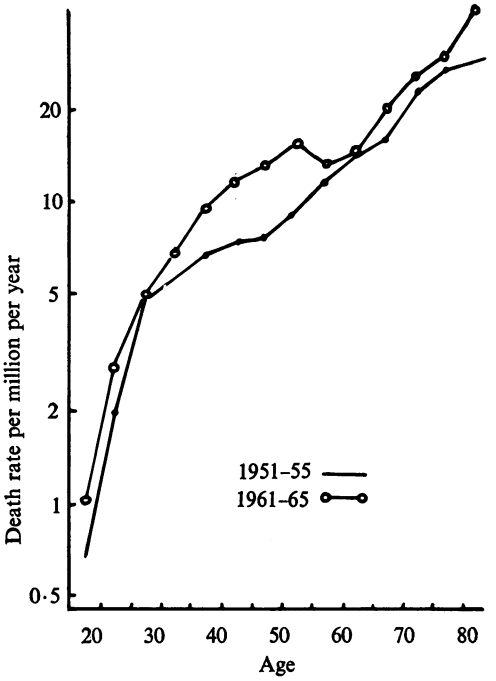

Figure 2

Death rates from malignant melanoma by age: sexes combined, England and Wales, 1951–55 and 1961–65.

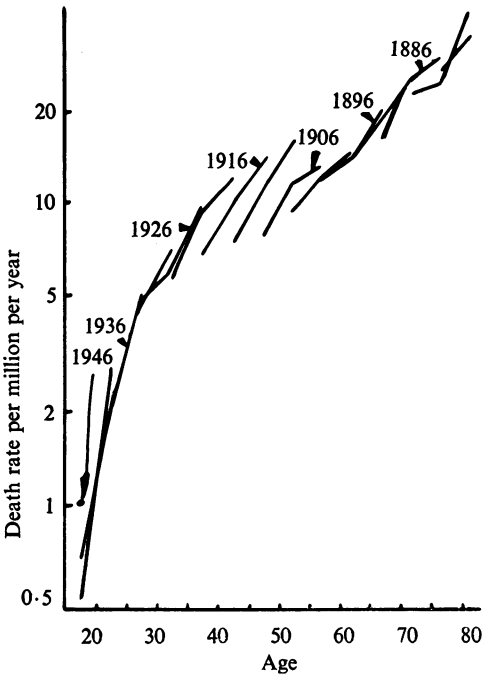

Figure 3

Death rates from malignant melanoma by birth cohort: sexes combined, England and Wales, 1951–65. The Registrar General for England and Wales and the corresponding official in many other countries tabulate deaths by 5-year age groups. Deaths of persons in such a 5-year age span occurring in a period of 5 years will be derived from births spread over a 10-year period, centered about the beginning of the period of observation of those aged 0–4 and going backward in time in 5-year steps for each succeeding age group.

Lee and Carter (1970) studying the birth-cohort figures for England and Wales (figure 3), showed that each successive cohort is producing higher death rates from malignant melanoma than the one born before, and concluded that 'persons born after 1885 have been exposed with increasing intensity to some factor(s) associated with high cancer mortality'.

Death rates are at any rate a measure of an assessment of facts at a particular time by a reasonably skilled observer. They are recorded for countries by statistical departments. Incidence figures are different. Commenting on incidence in his paper on the *Recognition and treatment of melanoma*, Booher (1969) cites figures from U.S.A. and Australia to suggest an increased incidence, while the Queensland melanoma project showed an incidence higher than anywhere else (16 per 100,000 in 1965) and suggested a gradient of mortality from Victoria through Australia towards the equator in every year since 1950. An editorial in *The Lancet* (1972) reports 'Epidemiological studies have indi-

cated that the overall incidence of malignant melanoma varies with latitude and that mortality in Caucasians increases as the equator is approached'.

In the South-west region of England, Bodenham (1968 and 1970) reports an overall incidence amongst a population of 3,000,000 of 3·5 per 100,000 with the oddity that in two counties (Devon and Cornwall) in females it was up to ten per 100,000, arising mostly on the leg between the knee and ankle.

South Metropolitan area

It next seemed logical, to make an investigation of the incidence in the area of England around this practice, both from general interest and to see if any conclusions from our own figures could be drawn.

The South-metropolitan cancer registry includes all the population in the areas covered by the South-east metropolitan, South-west metropolitan and Wessex Hospitals' Boards—the counties of Kent, Surrey, Sussex, Hampshire with parts of neighbouring counties of Dorset and the London areas of the two metropolitan boards.

For the purpose of the study the years 1961–1967 were selected as affording the most factual material since years following 1967 might not yet be complete, and prior to 1961 the developmental period of the registry which started in 1958, might have led to under-registration. During the years surveyed, the numbers in each year registered as living within the region were as follows:

1961	243
1962	258
1963	250
1964	253
1965	273
1966	276
1967	296

Total cases registered from within the region—1,849 (residential qualification)

Figure 4

Malignant melanomata all sites

These figures cannot be used to support a theory that the incidence of malignant melanoma is rising. While there may have been an increase in the effectiveness of the register as the period progressed, in addition the preliminary report of the 1971 census suggests a population increase in the area of at least one per cent annual average.

Tables I and II confirm and qualify some well known findings. The overall preponderance of melanomata of the skin in females with a gross female/male ratio of 2·1:1. reaching a ratio of eight to one in the melonamata of the calf and skin. There are exceptions to this that on the chest there is a male preponderence 38 to 15, and the fingers and toes where the sex incidences are about equal.

Unlike melanomata of the skin, those of the eye occurred equally in males and females.

Table I shows a marked increase in incidence at ages above 70. Ages may not, however, be recorded accurately in much of the over 70 range, and the population at risk in the last age group (75 years and over) contains a much higher number of women. The incidence curve for females suggests some relaxation of a markedly increased rate from about 45 years of age, a feature reminiscent of that found in breast cancer incidence rates.

TABLE I
MALE MELANOMATA BY AGE

ICD 8th Rev.	SITE	0–	5–	10–	15–	20–	25–	30–	35–	40–	45–	50–	55–	60–	65–	70–	75–	Not known	Total
172·0	Skin of Lip							1					1				1		3
172·1	Skin of Eyelids					1		1				1	2	2	1		1		9
172·1	Skin of Ear					1	1			1	1	1	3	1	1	1	3		14
172·3	Skin of Face	1				1	2	1	1	1	1	3	7	4	3	13	20		58
172·4	Skin of Scalp, Neck,				2	2	3	3		2	6	3	4	6	2	4	7		43
172·6 & 174	Skin of Trunk, inc. Breast			1	2	7	11	17	15	16	22	19	12	14	6	3	7		152
172·7	Skin of Arms		1		2		2		5	4	3	4	6	6	3	3	8		47
172·8	Skin of Legs			1	1	6	5	3	6	16	14	18	14	8	8	13	17		131
172	TOTAL SKIN	1	1	2	7	18	23	26	27	40	47	50	49	41	24	37	64		457
	Choroid					1			5	3	8	9	10	10	6	5	5		62
	Other specified intra-ocular				2		1	2	3	3	4	4	4	3	3	1			30
190	Conjunctiva					1				1					1				3
	Eye NOS					1			1	2		2	3	4	8	5	1		27
	TOTAL EYE (exc. eyelids)				2	3	1	2	9	9	12	15	17	17	18	11	6		122

OTHER SITES, PRIMARY:	Upper gum	1 case	Age: 43	29 cases
	Nasopharynx	1 case	Age: 54	
	Rectum, anal canal	10 cases	Ages: 20, 41, 61, 62, 65, 66, 68, 71, 76, 80	
	Nose, internal	7 cases	Ages: 56, 59, 60, 68, 71, 83, 88	
	Ethmoid sinus	1 case	Age: 67	
	Maxillary sinus	2 cases	Ages: 37, 68	
	False cord	2 cases	Ages: 57, 59	
	Penis	5 cases	Ages: 52, 56, 63, 67, 82	
SECONDARY, PRIMARY UNKNOWN:	Cervical nodes	1 case	Age: 78	42 cases
	Axillary nodes	7 cases	Ages: 50, 51, 53, 54, 54, 63, 51	
	Inguinal nodes	3 cases	Ages: 27, 76, 77	
	Multiple nodes	1 case	Age: 53	
	Lung	3 cases	Ages: 56, 62, 76	
	Peritoneum	1 case	Age: 64	
	Liver	7 cases	Ages: 52, 53, 54, 58, 67, 71, 73	
	Brain	4 cases	Ages: 43, 62, 63, 64	
	Bone	1 case	Age: 78	
	Disseminated	14 cases	Ages: 24, 26, 27, 39, 45, 52, 60, 60, 72, 72, 76, 77, 78, 47, 47	
			ALL MELANOMATA MALE	650

TABLE II
FEMALE MELANOMATA BY AGE

ICD 8th Rev	*SITE*	*0–*	*5–*	*10–*	*15–*	*20–*	*25–*	*30–*	*35–*	*40–*	*45–*	*50–*	*55–*	*60–*	*65–*	*70–*	*75–*	*Not known*	*Total*
172·0	Skin of Lip					1	1			2		1					2		7
172·1	Skin of Eyelids				1					1	2	3	2	2	1	2	2		16
172·2	Skin of Ear						1		1					1	1	1	5		10
172·3	Skin of Face				3		2	4	2	9	8	8	10	10	12	11	50	1	125
172·4	Skin of Scalp, Neck					1	2	1	1	3	1	4	2	5	3	2	5		30
172·6 & 174	Skin of Trunk, incl. Breast			1	6	8	7	10	9	18	13	10	16	10	12	11	19	1	151
172·7	Skin of Arms				3		2	13	9	8	18	14	20	16	19	4	12		138
172·8	Skin of Legs				7	12	28	37	58	74	51	42	42	27	30	39	30		497
172·9	Skin, site unspecified							1			1	1					3		
172	TOTAL SKIN			1	20	22	43	66	80	109	95	91	92	86	75	61	134	2	977
190	Choroid							1	4	5	3	8	8	6	11	3	11		60
190	Other specified intra-ocular						1			3	2	4	3	4	1	3	4		26
190	Conjunctiva								1	1		1	1	1		1	1		7
190	Eye NOS									1	5	1	3	3	4	3	8		28
190	TOTAL EYE (exc. eyelids)						1	1	6	10	10	14	15	15	16	10	24		121
184	Vulva, vagina									3	2	1	4	5	8	9	16		48

OTHER SITES: PRIMARY:	Upper gum	1 case	Age: 61	
	Nasopharynx	2 cases	Ages: 77, 89	
	Rectum, anal canal	8 cases	Ages: 48, 53, 56, 56, 72, 79, 91	
	Nose, internal	6 cases	Ages: 48, 49, 64, 76, 78, 78	22 cases
	Ethmoid sinus	1 case	Age: 73	
	Maxillary sinus	1 case	Age: 71	
	Arytenoid	1 case	Age: 70	
	Urethra	2 cases	Ages: 75, 87	
SECONDARY, PRIMARY UNKNOWN:	Cervical nodes	3 cases	Ages: 20, 40, 55	
	Axillary nodes	3 cases	Ages: 51, 56, 75	
	Inguinal nodes	6 cases	Ages: 44, 56, 60, 70, 79, 80	
	Peritoneum	1 case	Age: 84	
	Liver	5 cases	Ages: 50, 58, 61, 74, 80	31 cases
	Pancreas	1 case	Age: 53	
	Brain	3 cases	Ages: 37, 52, 67	
	Bone	1 case	Age: 67	
	Disseminated	8 cases	Ages: 41, 68, 72, 73, 76, 77, 79, 79	
	ALL MELANOMATA FEMALE			1,199

The possibility of a lateral preponderance of melanomata of the arms and legs was examined and no significant difference between right side and left side was found.

Tables IV–XIV present crude life survival rates by site where numbers were adequate, based on intra-regional cases 1961–67.

TABLE III

MELANOMA OF SKIN. MORE DETAILED SITE CLASSIFICATION BY SEX (EXCLUDING CATEGORY 172·9 MULTIPLE SITES)

			M	*F*	*P*
172·0	LIP	Upper	2	3	5
		Lower	1	4	5
			3	7	10
172·1	EYELIDS	Upper	2	2	4
		Lower	3	8	11
		Inner canthus	3	3	6
		Outer canthus	1	1	2
		NOS	–	2	2
			9	16	25
172·2	PINNA	Helix	3	6	9
		Lobule	1	–	1
		Cranial surface	3	–	3
		NOS	7	4	11
			14	10	24
172·3	FACE	Forehead, supra-orbital	6	14	20
		Nose	9	14	23
		Pre-auricular	6	1	7
		Cheek	36	90	126
		Chin	1	5	6
		NOS	–	1	1
			58	125	183
172·4	SCALP & NECK	Parietal	2	–	2
		Temporal	5	4	9
		Occipital	–	1	1
		Scalp NOS	4	–	4
		Nuchal	4	3	7
		Neck (anterior & lateral)	20	19	39
		Post-auricular	7	3	10
		Submental	1	–	1
			43	30	73
172·6	TRUNK	Pectoral	38	15	53
		Shoulder	15	17	32
		Axillary	12	8	20
		Upper abdominal	10	15	25
		Lower abdominal pubic, inguinal	7	34	41
		Upper dorsal	35	23	58
		Mid dorsal	20	18	38
		Lower dorsal (sacral, gluteal)	4	13	17
		Dorsal NOS	6	6	12
		Multiple	2	1	3
		Perineum, anal margin	3	1	4
			152	151	303

172·7 ARMS	Fingers (excl. nailbed)	12	13	25
	Nailbed	5	5	10
	Palm of hand	–	2	2
	Dorsum of hand	1	4	5
	Wrist	2	12	14
	Forearm	10	45	55
	Elbow	1	8	9
	Upper arm	14	38	52
	Arm NOS	2	11	13
		47	138	185
172·8 LEGS	Toes (excl. nailbed)	15	21	36
	Nailbed	4	2	6
	Sole of foot	10	30	40
	Dorsum of foot	8	15	23
	Ankle, heel	20	67	87
	Foot NOS	8	23	31
	Calf, shin	25	201	226
	Knee	10	20	30
	Thigh	26	54	80
	Multiple areas	1	3	4
	Leg NOS	4	61	65
		131	497	628

TABLE IVa

SURVIVAL RATES FOR MALIGNANT MELANOMA OF EYE

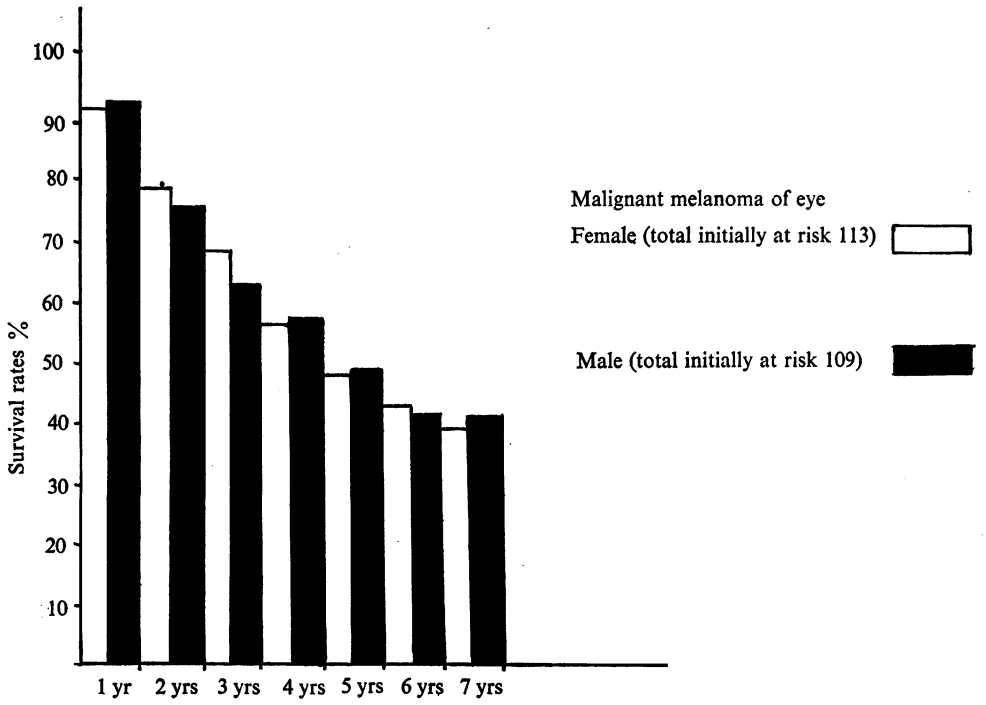

TABLE IVb

SURVIVAL RATES FOR MALIGNANT MELANOMA OF SKIN

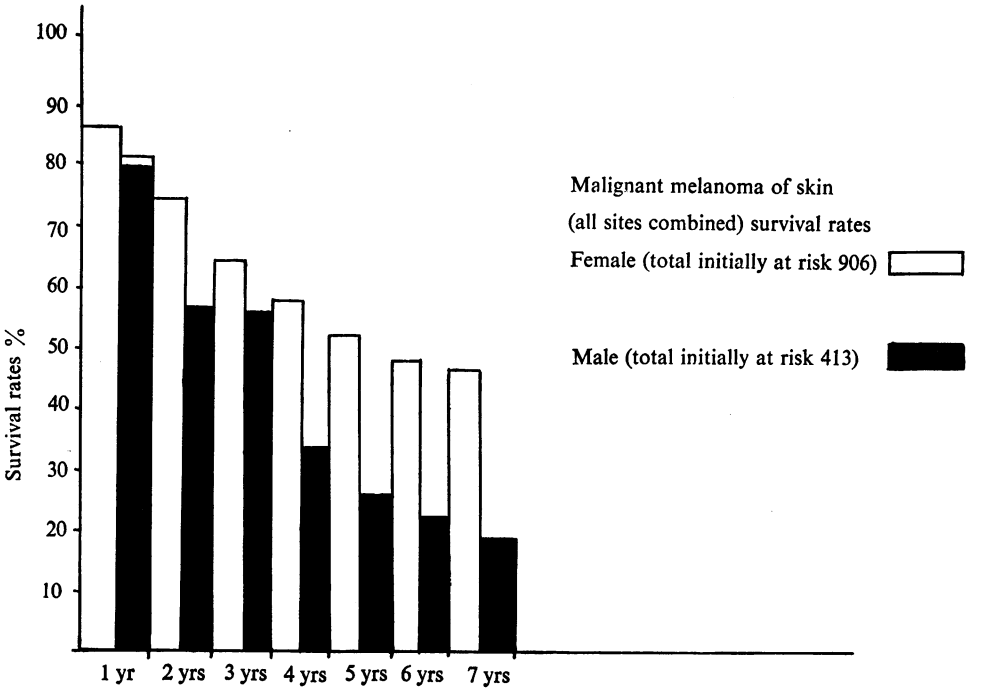

TABLE V

CRUDE SURVIVAL RATES FOR SKIN ALL SITES COMBINED (172·0–172·9)

(*South Metropolitan Cancer Registry*)

	Percentage survival rates		
Years	*Male*	*Female*	*All patients*
1	*79·0*	*85·5*	*83·5*
2	*55·9*	*74·4*	*68·6*
3	*54·4*	*64·3*	*58·4*
4	*33·0*	*56·6*	*49·2*
5	*26·0*	*51·9*	*43·8*
6	*21·7*	*47·9*	*39·7*
7	*19·0*	*46·7*	*38·0*
Patients initially at risk	413	906	Total 1319

TABLE VI

CRUDE SURVIVAL RATES FOR EYE (190)

(*South Metropolitan Cancer Registry*)

	Percentage survival rates		
Years	*Male*	*Female*	*All patients*
1	*90·8*	*90·2*	*90·5*
2	*74·7*	*78·3*	*76·6*
3	*61·7*	*68·2*	*65·0*
4	*57·6*	*56·5*	*56·9*
5	*48·3*	*46·7*	*47·4*
6	*40·9*	*44·9*	*42·8*
7	*40·9*	*37·0*	*39·0*
Patients initially at risk	109	113	Total 222

With the possible exception of the trunk, the survival rates for women with melanoma of the skin were distinctly better than those for men. For all skin sites the five-year survival rate for women is 52 per cent compared with 26 per cent for men. Among individual sites the best prognosis seems to be associated with the eyelids, although the numbers are rather small, and the lower limb.

The worst prognosis is for the scalp and neck, trunk and auricle. Melanoma of the eye, to my surprise, had relatively good survival rates, and women with melanoma of the

vulva and vagina had the lowest of all survival rates, three-year 30 per cent; five-year 11·5 per cent. Out of the total of 1,849 cases 73 (four per cent) were diagnosed on the basis of metasteses, no primary being found.

Despite the accidental finding of a proportionately large number in my own practice sample, neither the death rate figures for England and Wales nor the Cancer Register incidence figures, support an increasing incidence of this disease. Though the United States death rate shows a steady rise, the incidence and death rate in this country suggest a rise between 1956–58 with a subsequent flattening of the curve to a stationary position in the years under review.

Aetiology

The Lancet editorial (1971) on *Sunlight and Melanomas* suggested a multi-factorial basis for the lesion—Sunlight direct or indirect the "solar circulating factor" Lee and Merrill (1970).

TABLE VII

CRUDE SURVIVAL RATES FOR SKIN, TRUNK INCLUDING BREAST (172·6 & 174)

(*South Metropolitan Cancer Registry*)

	Percentage survival rates		
Years	*Male*	*Female*	*All patients*
1	*72·1*	*69·7*	*70·9*
2	*52·9*	*55·0*	*53·9*
3	*39·8*	*41·5*	*40·6*
4	*31·3*	*36·8*	*34·0*
5	*24·9*	*33·4*	*28·8*
6	*18·3*	*33·4*	*24·6*
7	—	*33·4*	*24·6*
Patients initially at risk	136	140	Total 276

TABLE VIII

CRUDE SURVIVAL RATES FOR SKIN, UPPER LIMBS (172·7)

(*South Metropolitan Cancer Registry*)

	Percentage survival rates		
Years	*Males*	*Females*	*All patients*
1	*90·8*	*86·9*	*87·9*
2	*58·2*	*77·1*	*72·2*
3	*48·1*	*66·7*	*61·8*
4	*28·2*	*55·7*	*48·4*
5	*23·1*	*52·2*	*44·5*
6	*16·5*	*49·8*	*41·0*
7	—	*49·8*	*41·0*
Patients initially at risk	44	131	Total 175

TABLE IX

CRUDE SURVIVAL RATES FOR SKIN, LOWER LIMBS (172·8)

(*South Metropolitan Cancer Registry*)

	Percentage survival rates		
Years	*Male*	*Female*	*All patients*
1	*77·6*	*89·9*	*87·3*
2	*55·1*	*77·9*	*73·1*
3	*46·7*	*71·3*	*66·2*
4	*37·8*	*63·6*	*58·3*
5	*31·5*	*58·8*	*53·4*
6	*28·5*	*53·2*	*48·3*
7	*20·3*	*51·7*	*45·8*
Patients initially at risk	122	458	Total 580

TABLE X

CRUDE SURVIVAL RATES FOR SKIN, FACE (NOT ELSEWHERE INCLUDED) (172·3)

(*South Metropolitan Cancer Registry*

	Percentage survival rates		
Years	*Male*	*Female*	*All patients*
1	*90·0*	*86·0*	*87·2*
2	*60·7*	*78·5*	*72·9*
3	*51·9*	*64·9*	*60·9*
4	*31·6*	*58·0*	*49·8*
5	*22·1*	*50·8*	*41·9*
6	*18·7*	*46·8*	*37·9*
7	—	*44·3*	*36·2*
Patients initially at risk	51	115	Total 166

Secondly, is the hormonal environment of the patient—a factor supported by the relationship of female incidence to that of breast cancer and perhaps by the higher male mortality, another resemblance to breast cancer. Thirdly perhaps, a virus, particularly an inactive proviral lesion—similar to herpes simplex—activated by sunlight or cold or a leukaemic virus activated by radiation.

Of interest are the following facts:

1. *Ultra-violet light*

If the operating factor is sunlight, and especially ultra-violet, as Lee and Merrill postulate, then it is odd that the mortality increases towards the equator while the ultra-

TABLE XI
CRUDE SURVIVAL RATES FOR SKIN, SCALP AND NECK (172·4)
(*South Metropolitan Cancer Registry*)

Years	*Percentage survival rates*		
	Male	*Female*	*All patients*
1	*81·8*	*86·7*	*83·9*
2	*55·0*	*83·2*	*67·3*
3	*40·5*	*52·2*	*45·7*
4	*24·9*	*37·3*	*30·1*
5	*15·6*	*29·6*	*20·9*
6	*15·6*	—	*20·9*
7	*10·4*	—	*16·2*
Patients initially at risk	39	30	Total 69

TABLE XII
MELANOMA. CRUDE LIFE TABLE SURVIVAL RATES
VAGINA AND VULVA (184)
(*South Metropolitan Cancer Registry*)

Years	*Percentage survival rates*
	F
1	*60·0*
2	*36·0*
3	*30·2*
4	*16·1*
5	*11·5*
6	*11·5*
7	*11·5*
Women initially at risk	55

TABLE XIII
MELANOMA. CRUDE LIFE TABLE SURVIVAL RATES
SKIN, EAR (172·2)
(*South Metropolitan Cancer Registry*)

Years	*Percentage survival rate*
	All patients
1	*68·4*
2	*47·4*
3	*47·4*
4	*37·9*
Patients initially at risk	19

TABLE XIV
MELANOMA. CRUDE LIFE TABLE SURVIVAL RATES
SKIN, LIP (172·0)
Not presented. 10 cases only. 2 died within 1 year and 1 died between 1 and 2 years.
SKIN, EYELIDS (172·1)
(*South Metropolitan Cancer Registry*)

Years	*Percentage survival rate*
	All patients
1	*90·5*
2	*90·5*
3	*78·4*
4	*70·9*
Patients intially at risk	21

violet content of sunlight varies according to height above sea level—experience in the war showed that sea level ultra-violet light appeared low with little risk of skin burning in the equatorial regions.

2. *Radiation*

Taking the English figures alone, whatever the factor, it appears to have operated with maximum intensity over the decades 1940–50 and 1950–60 achieving a relatively stable situation by 1961. It is coincidental, to say the least, that this corresponds with the use and testing of atomic weapons with subsequent dispersal of radiation, culminating in the test ban treaty. Perhaps the study of incidence figures compared with long-term records of radiation fall out or the presence of strontium 90 in milk, both of which exist in some files, would be enlightening. Certainly in Australia, where the latitude correlation has been most conclusively studied, all the dirty explosions occurred to the north of the continent, towards or beyond the equator.

3. *Trauma*

The Lancet editorial did not consider the possibility of trauma as an aetiological factor other that than by sunlight.

Eve (1970) reported a series of cases after puncture wounds of the sole. Stevenson (1956) observed 18 cases of melanoma in Bombay Indians, 15 of the foot, and in five there was a definite history of antecedent puncture wound from thorns or stones at the site of the tumour. Hewer (1940) found that of 34 melanomata, 28 were localised to some part of the foot. In a more extensive review, Steiner (1954) drew attention to a habit of walking barefoot in people who developed melanoma of the feet or legs and this observation is confirmed by other authors Mulay (1963); Shanmugaratnam and Las'brooy (1963); Higginson and Oettle (1960).

The calf and skin in women are especially liable to trauma compared with the same area in men, both from indirect source—sunlight—and direct, such as scratches and thorns. It has, however, a specific hazard in European communities where the use of depilation of the leg, either by razor or by depilatory creams, has become a social habit. Barefoot, bare legged women are common while a whole industry has been built around the depilation of the leg to produce a more socially acceptable appendage.

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ADDENDUM

Additional tables and information are available from Dr I. Clout, Leacroft, Ifield Road, Crawley, Sussex.

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UNDETECTED ILLNESS

Of 2,153 persons interrogated in their homes, 4·9 per cent had had no complaints in the previous 14 days, 18·1 per cent had had complaints in the previous 14 days but took no action—usually correctly in view of the trivial nature of their complaints, but alas not always; some patients had complaints which any one of us would investigate: for example, haematuria. Of the 76·3 per cent who took action for their complaints in the previous 14 days only a third (36 per cent) had taken action inside the framework of the National Health Service, i.e. half the total sample had decided to fend for themselves.

Butterfield, W. J. H. (1972). Discussion on dilemmas in general practice at the section of general practice of the Royal Society of Medicine, *Practitioner*, **208**, 692.

HOW WELL DOES THE GENERAL PRACTITIONER KNOW HIS PATIENTS?

A doctor knows his patients in proportion to the time he works among them, but doctors in rural areas know their patients better than urban colleagues because: (a) rural populations are less mobile, (b) practices are smaller, (c) practices tend to be less busy.

Hull, F. M. (1972). *Practitioner*, **208**, 688–690.

PATIENTS OVER 75 IN GENERAL PRACTICE

In a survey of people of 75 years and over in a general practice situated in the North-west of England 297 patients were examined. Among the many previously unreported conditions and social needs were seven unknown malignant conditions, 28 patients with heart failure, five with diabetes, and one with myxoedema. A high incidence of nutritional anaemia was also found. It is concluded that such a survey can detect much hidden illness and disability and that general practice is the right setting for it.

Williams, E. I., Bennett, Frances M., Nixon, J. V., Nicholson M. R. & Gabert, Jean (1972). *British Medical Journal* **2**, 445–448. (Authors' summary.)