S. DAVIS, F. GARDNER, AND G. QVIST: SHAPE OF A PLEURAL EFFUSION

FIG. 3.—Lateral radiographs of pleural effusions showing (A) rising anterior line of density and (B) lines of density in greater and lesser fissures, due to "end-on" views of fluid.

C. D. CALNAN: CREAM FOR COVERING SKIN BLEMISHES

FIG. 1.—Showing extent of disfigurement.

FIG. 2.—Masking effect of covering cream.

the upper limit of density rises anteriorly behind the sternum and posteriorly in front of the spine (Special Plate, Fig. 3A).

A similar explanation applies to the apparent predilection of the fluid for the greater and lesser fissures as seen on a lateral chest radiograph (Special Plate, Fig. 3B). Provided the effusion is free and not encysted, the upper limit of the fluid in the fissures is no higher than that surrounding the rest of the lung, but it is radio-opaque because it is seen "end-on" and the rays have to traverse a greater thickness of fluid.

Clinical Evidence

1. It is a common experience in aspiration of pleural effusion that the volume of fluid withdrawn is often considerably greater than might be expected from the x-ray appearance.

2. Successful aspiration of a pleural effusion may be performed at a level above the radiographic shadow of fluid. This is demonstrated in Special Plate, Fig. 2, from a patient who had a chronic simple pleural effusion.

A simple comparison may be made by observing that in the experiment with the plastic bucket and air-filled balloon, if a needle were introduced through the wall of the bucket in the radiotranslucent area, fluid would obviously be withdrawn, though none is demonstrable in the x-ray film in that position (Text, Fig. 1).

Discussion

It is suggested that physical, experimental, and clinical data support the contention that the upper limit of a pleural effusion is horizontal, at a level indicated approximately by the top of the x-ray shadow of fluid

in the axilla in the antero-posterior film. It is probable that this is an underestimate and that the upper limit of fluid is actually higher than this point, because very often, when there is enough fluid to give a good oblique x-ray shadow, it will be noted that there is also a pleural cap of fluid at the apex. This is shown in Special Plate, Fig. 2, where fluid

TEXT FIG. 2.—Diagram to show the upper limit of a pleural effusion as demonstrated by radiography, percussion, and the authors' observations.

obviously reaches the apex of the pleura but there is still a radiotranslucent area of lung in the mid-zone, and, in fact, fluid was aspirated from this site.

It can be concluded from this evidence that clinical signs are more accurate than radiography in determining the extent of a pleural effusion: dullness to percussion may be present at the front and back of the chest over a radiotranslucent area of lung. If the upper limit of an effusion is horizontal, it might be expected that the upper limit of dullness to percussion would also be horizontal around the chest. It is possible

however, that physical conditions of partly aerated lung and the more acute curvature of the axilla could be responsible for the rising axillary line of impaired percussion described as the Ellis line. It is therefore suggested that, if the Ellis line is demonstrable, it does not indicate the true upper limit of fluid which is actually at a horizontal level corresponding, probably, to the highest point of the Ellis line (Text, Fig. 2).

Summary

Physical, experimental, and clinical evidence is presented to suggest that the upper limit of a free pleural effusion is horizontal. The level of this limit is indicated approximately by the highest point of dullness to percussion and by the apex of the axillary shadow in the antero-posterior radiograph.

It is suggested that radiological signs of fluid are misleading, and that clinical signs are more accurate in estimating the extent of a pleural effusion. Fluid may be aspirated from the pleura in a radiotranslucent area.

The Ellis line of dullness to percussion is not always demonstrable in cases of pleural effusion and it does not indicate the true extent of fluid.

We are greatly indebted to Miss J. A. Middleton, artist of the Medical Unit, and to Miss L. Hobson for the drawings, and to Mr. R. R. Phillips, Photographic Department of the Royal Free Hospital, for the photographs.

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A NEW CREAM FOR COVERING SKIN BLEMISHES

BY

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[WITH SPECIAL PLATE]

Whatever personal opinion one may hold as to the most desirable relationship between cosmetology and dermatology, few doctors will doubt that each can with advantage learn something from the particular skills of the other. Cosmeticians have made a particular study of the "acceptability" characteristics of the preparations which they apply to the skin. Dermatologists should therefore be able to learn some of the art of local treatment from cosmeticians.

A number of dermatological disorders are not, at the present time, amenable to treatment. Surgical repair may not be feasible or it may not produce a sufficiently satisfactory cosmetic result. This applies to certain congenital disorders producing skin blemishes which may be regarded as purely cosmetic disabilities.

A new type of covering cream* for the treatment of such lesions has recently been developed, and used on more than 50 patients. One of the first of these was a girl of 16 with an extensive port-wine stain. The result was so gratifying that one was encouraged to treat

* "Keromask," made by Innox (England) Limited, 436 Essex Road, London N.1.

further patients with capillary angiomas as well as a variety of other disabilities. This case was demonstrated at a meeting of the St. John's Hospital Dermatological Society on January 4, 1962, and is described below.

Case Report

The patient, a schoolgirl aged 14 when first seen, has had a very extensive capillary haemangioma since birth (Special Plate, Fig. 1); it involves the whole of the right side of the face and neck, except the upper part of the forehead, as well as the left forearm and both legs. Her lips are thickened and involved in the angiomatic process. There is some degree of general hemi-hypertrophy of the right side of the face. She has had no headaches, fits, fainting attacks, or other symptoms. Her general health, eyesight, and intelligence are good. There is no history of a similar affection in her family. Radiographs of her chest and skull are normal. An electroencephalogram shows a minimal abnormality in the left parasagittal region; there are no signs of a discharging lesion. A plastic surgical operation was successfully performed on her upper lip to reduce the enlargement.

The effect of the covering cream is shown in Special Plate, Fig. 2, and the improvement in her self-confidence is perhaps reflected in the smile playing about her lips.

The Cream

The problem facing the cosmetic chemist in formulating suitable products for use in camouflaging skin blemishes is to reconcile the opposing requirements of good covering power and good spreading power. The final effect should be completely natural and the materials used should be selected for their low sensitization index. The product must be durable and compatible with the other additional cosmetics which will invariably be used by women.

It is desirable that the number of different shades of a camouflaging product employed in order to achieve the desired result should be small, since the technique of application must be easy to teach. It has been found that four products constitute the requirement; they are a white and a brown masking cream and a red and a honey-coloured toning product. The purpose of the first two creams is to mask the blemish; the purpose of the third and fourth is to colour the layer of masking cream so that it blends with the surrounding skin. It has been found possible by careful formulation to produce an easily spread cream containing up to 60% of pigment. As a result, when this cream has been well rubbed into the skin virtually no greasiness remains. The surface is sufficiently natural-looking to provide adequate coverage in the case of men, and is yet receptive to a layer of face-powder in the case of women.

The composition of the creams is as follows:

Masking Cream			
Brown:	Titanium oxide	.. ..	34.6%
	Colour (ochre pigments)	.. ..	42.2%
	Ointment base	.. ..	23.2%
White:	Titanium oxide	.. ..	70.8%
	Ointment base	.. ..	29.2%
Ointment base:	Acetylated fatty acid mono-glycerides	.. ..	38.0%
	Oleic acid monoglyceride	.. ..	31.0%
	Isopropyl myristate	.. ..	31.0%
Toning Product			
Liquid paraffin	.. ..	.. ..	19.6%
Soft white paraffin	.. ..	.. ..	32.4%
Beeswax	.. ..	.. ..	16.0%
Lanolin absorption base	.. ..	.. ..	14.0%
Polyethylene oxide stearate	.. ..	.. ..	9.0%
Pigments	.. ..	.. ..	9.0%

Methods of Use

Before applying any of these preparations it is essential that the skin be thoroughly cleansed to remove residual grease and any debris so that maximum absorption of the product can be attained. Any method of cleansing is suitable provided it is thorough. Good results have been obtained by the use of cosmetic cleansing milks.

It is necessary to apply the camouflage creams first and to mix them on the skin. If a pale to pink skin is being treated the brown base should be used first; if a tanned or yellowish skin, then the white base should be used first. The creams are rubbed in separately, and then the flesh tint of the area is brought up by the use of the toning creams. It is found that with comparatively little practice any normal person is capable of achieving a satisfactory result.

In the case of women there is scope for greatly improved effects by the careful use of other cosmetics in association with this masking cream. The judicious application of eye make-up can often serve to draw attention away from the affected area of skin. It has been found desirable, when instructing women in the use of masking creams, to give them advice on the use of ordinary cosmetic "make-up" products in order to improve the result. The use of normal "make-up" in this way is particularly important when the masking creams themselves are only partially successful, as, for example, in patients with extensive scarring where the skin may be uneven and of varying texture, or in cases of raised naevi.

It is clear that the disguising of effects in depth is a great deal more difficult. Much can be achieved by directing attention away from such areas towards well-made-up eyes and lips.

Results

The clinical diagnosis of the cosmetic disability of the treated patients has varied widely; examples are capillary haemangiomas, telangiectatic naevus, surgical scars, burn scars, macular pigmentation, and leucoderma. A few less suitable disorders have also been treated, such as acne scarring, discoid lupus erythematosus, rosacea, and pigmented hairy naevus. In general, this particular cream is not suitable for very irregular or pitted surfaces. Patients who have derived the greatest benefit have undoubtedly been those with capillary angiomas of the face.

Many of the results can be considered excellent. The angioma in the case described above is so completely masked (Special Plate, Fig. 2) that a casual look would reveal no abnormality, and passers-by in the street would certainly not notice it. Some of the other lesions treated have been more difficult to mask, but in general the conditions in which this treatment is worth while, especially in women, are capillary angioma, chloasma, melanoderma, leucoderma, naevus anaemicus, traumatic, post-operative, and post-irradiation scars, and scarring dermatoses.

The series of cases treated up to date includes patients of both sexes and all ages, including young children, who have been able rapidly to master the techniques.

I wish to thank the many physicians and surgeons who have kindly referred patients for treatment. I am particularly grateful to Dr. K. B. Alberman and Mrs. N. Field, of Innova (England) Ltd., for their help in developing the treatment techniques and tuition for the patients.