War Medicine Series

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SKIN DISEASES IN WAR

BY

R. T. BRAIN, M.D., F.R.C.P.

The various infections of the skin account for the great majority of skin diseases in war, and these infections may be considered conveniently in their aetiological groups. Thus we have the common pyogenic infections, seborrhoeic dermatitis, mycotic infections, virus infections, and those due to animal parasites. In many of these conditions the diagnosis is simple and calls for little comment, while treatment is of supreme importance not only to the individual but to the community, for the speedy cure of an infection is the most certain method of preventing its spread.

The Pyogenic Infections

The common infections to be considered under this heading are of streptococcal or staphylococcal origin, but it should be remembered that mycotic and virus lesions, and also the less familiar lesions of cutaneous diphtheria and leishmaniasis, may be pustular too.

Impetigo Contagiosa

Several clinical varieties can be recognized, the discrete scabbed sore being the most common. Bullous lesions suggest greater virulence, and the spread is usually rapid. As the bullae resolve after rupture by drying centrally, the edges remain red and may extend as a circinate lesion closely resembling tinea but more rapid in its course. Rarely, ulcerative lesions termed "ecthyma" occur, and this variety leaves scars. Occasionally pale scaly lesions—impetigo pityroides—are present with or without the other varieties, and such lesions are apt to be confused with the scaly seborrhoids, to which they are probably related. Impetigo often involves the angles of the mouth, producing septic fissures; it also attacks the skin folds, setting up a septic intertrigo, the post-auricular variety being the most common. Septic fissures and pus-coccal intertrigo are likely to persist as chronic lesions long after the primary condition of impetigo has cleared up. Sometimes in the course of impetigo, either because the infection is very acute or the skin is irritated by treatment, a rapidly spreading pus-coccal dermatitis results. This appears as a bright erythematous area—hot, slightly oedematous, often weeping or crusted, but not indurated or so well defined as erysipelas, and the constitutional disturbance is lacking. A weeping pus-coccal dermatitis is often loosely called "eczema," but it is advantageous to retain the latter term for the response of a hypersensitive skin in which grouped minute papulo-vesicles erupt in non-inflamed areas. Naturally a skin may be sensitized by an infection or by an irritating application, and then upon the dermatitis so produced the grouped eczematous lesions will appear; but if the eczematous nature of the new eruption is not at once apparent by its morphology it soon will be when further eczematous lesions arise outside the inflamed area and perhaps symmetrically upon the limbs. The distinction between dermatitis and eczema is of practical importance because in acute pus-coccal dermatitis the infection must be fought, whereas eczema calls for sedatives and emollients to soothe and desensitize the skin.

Before discussing treatment it is necessary to add that few dermatologists claim to be able to distinguish between staphylococcal and streptococcal lesions of impetigo contagiosa. Streptococci have often been found in pure culture in early bullous lesions, which cannot therefore be regarded as peculiar

to impetigo of staphylococcal origin. The dramatic response of many cases of bullous impetigo to a sulphonamide adds support to this view.

Treatment of Impetigo

One might say provocatively that general treatment is unimportant, for most of the cases clear up quickly on local treatment alone. Even so, it is bad practice to treat any lesion and neglect the individual, and in the exceptional case general treatment is vital: this happens when a virulent organism or lack of resistance on the part of the patient produces a rapidly spreading infection, the lesions of which are deeply coloured with an erythematous flare spreading around them like a developing erysipelas. Sulphanilamide is usually quickly effective in such cases, doses of 1 g. three or four times a day for a week being adequate as a rule. Although such relatively small doses rarely produce toxic symptoms, ascorbic acid is a safeguard, and as wartime diets are low in vitamin C content, doses of 50 mg. two or three times a day are useful. Personal experience and reported cases suggest that vitamin C is very helpful in many infections, so that it is worth while giving it alone in obstinate cases of impetigo. Chronic pus-coccal lesions such as septic fissures and intertrigo may resist local treatment for years unless every effort is made to improve the general health. The good effects of ultra-violet light upon immunity and metabolism should be considered. Phenobarbitone has cured many an obstinate case of impetigo in a nervous subject whose picking at the sores, even during sleep, has frustrated local treatment.

Local treatment is determined by local conditions. The most important fact to remember is that the normal dry intact horny layer is invulnerable to bacterial infection. A moist skin is a vulnerable skin, so that the indiscriminate use of water or grease is to be avoided. The exudate from moist pus-coccal lesions can permeate the stratum corneum, thus bringing the organisms in a suitable culture medium to the moist layers, where they may actively infect; and no doubt this explains the spread of bullous impetigo on the face by a pillow at night. This can be prevented by soaking a clean handkerchief in liq. hydrarg. perchlor., pinning it when dry to the pillow, and lightly powdering it with talc. Auto-infection by scratching can be diminished by cutting the nails short, scrubbing the free edges, and disinfecting them with antiseptic—an important fragment of technique in nervous patients and in children. Obviously it is equally important to dry up the early lesions as soon as possible. When these lesions tend to dry and heal spontaneously it is sufficient to apply calamine lotion or a dusting powder, and cure may be expected in a few days. Flat scabs on dry lesions may be left undisturbed and in due course they will flake off the healed skin, but the scabs on purulent sores need removing so that the antiseptics may inhibit or destroy the infection. A simple and satisfactory method of removing scabs and crusts is to apply hot compresses of 2% sodium sulphate for one hour and then to cleanse with a similar lotion or with 1% solution of sodium bicarbonate or normal saline. Dettol, hydrogen peroxide, or hypochlorite solution may usefully be added to the cleansing lotions. The need for isotonic or slightly hypertonic solutions is stressed, because skin denuded of its protective stratum corneum is instantly damaged by water, and the H-substance released by the disrupted cells increases the erythema and exudation. The starch poultice brings heat and moisture into more intimate contact with the skin, but it is less cleanly than the saline compress. Kaolin made into a paste with 2% sodium sulphate solution is a simple substitute for the starch compress.

Having cleaned away scabs and exudate, the next object of treatment is to dry the moist surface. Local ultra-violet light is an excellent method if available, since this has a superficial bactericidal effect and also stimulates healing and increases the resistance of the skin. Failing ultra-violet, infra-red or the near light of an electric bulb, or the warm air of an electric dryer, can be used. In actual practice one often has to depend upon powders and drying lotions. As a powder basis, zinc oxide, talc, and kaolin should be used instead of starch, and 2% of ammoniated mercury or calomel or 5% of sulphanilamide may be incorporated. Sulphanilamide powder alone is

effective in the treatment of virulent lesions but more active as a 5% solution in glycerin.

In mild infections calamine lotion alone or with 2% liquor picis carbonis or 0.1% mercury perchloride is to be preferred as a cosmetic application. A suitably tinted 20% suspension of kaolin with 0.1% mercury perchloride or 2% ammoniated mercury is a useful alternative. If these lotions do not control the exudate—and occasionally metallic substances increase it—the dyes should be used. A 2% watery solution of gentian violet is excellent, although it obscures the lesion more than 0.1% acriflavine, to which 4% of tannic acid may be added to coagulate the serous discharge. Certain metallic salts also have a coagulating effect; useful formulae being silver nitrate 2 to 5% in distilled water; or eau d'Alibour, zinc sulphate gr. 6, copper sulphate gr. 4, in 1 oz. of water. Alcoholic solutions irritate the broken skin, and even spirit soap is best avoided.

If the skin becomes too dry or if eczematous lesions indicate intolerance of watery applications, creams or pastes should be tried. The former consist of 6 to 10% of calamine or of zinc oxide in a mixture of a vegetable oil and an equal volume of lime-water. Up to 10% of lanolin may be added to make a smoother cream, and the further addition of 2% of ichthammol, phenol, or liquor picis carbonis serves to relieve irritation and to add an antiseptic quality to the cream.

Zinc paste consists of one part of starch, one of zinc oxide, and two of soft paraffin. No doubt it would be just as effective if made with equal parts of kaolin and vaseline. These pastes may be improved for certain conditions by adding 2 to 3% of crude coal tar or of yellow oxide of mercury. Either may suit a dry impetigo, an obstinate intertrigo, or an eczematous lesion intolerant of lotions. Since pastes contain 50% of powder they can absorb moisture from the skin, and their degree of permeability prevents maceration and overheating. Compared with ointments, pastes represent a saving of nearly 50% of the fatty base—an important economy in war.

Ointments have a limited sphere of usefulness, and their irrational employment on moist lesions accounts for a lot of unnecessary dermatological practice. The skin is kept moist and vulnerable to infection under greasy films, and the formation of a healthy stratum corneum is retarded because desiccation is part of its natural stimulus. It is true that, according to many textbooks, ointments have a prominent place in the treatment of impetigo, ung. hydrarg. ammon. being popular in this country and the U.S.A. and diachylon ointment in some European countries. It may fairly be said that many cases of impetigo get well in spite of the use of ointments, and that with careful cleansing of the lesions before applying ointment successful results can usually be obtained, although it may entail daily visits to a clinic. The advantages of substituting lotions for ointments can readily be demonstrated. A weak mercurial ointment is useful when hard scabs form at night, especially in the scalp, and ung. hydrarg. nitratis dil. often heals septic fissures which are apt to persist at the angles of the mouth and just inside the alae nasi. Quinolol ointment and the sulphanilamide ointments are sometimes more effective than the mercurials, but they are rarely necessary in the treatment of impetigo.

Some patients are very susceptible to staphylococcal infection of the hair and sebaceous follicles, and since grease increases this susceptibility sycosis barbae may be a sequel to treating impetigo of the beard area with an irritating ointment.

Sycosis Barbae

This is essentially a chronic staphylococcal infection of the hair follicles, and the diagnosis is rarely established clinically before 3 or 4 weeks have elapsed. In sycosis barbae the infected follicles are a deep brownish-red colour and many of them have small pustules at their orifices through which the hair protrudes. Although commonly localized to the shaven area or even to the upper lip or chin, sycosis may involve the eyebrows, scalp, neck, and every hairy part of the body. If in addition to sycosis there is marginal blepharitis, and septic follicles in the nares, the prognosis is bad. This resistance to local treatment supports the view that the skin lesions are in the nature of pustular bacterides, and in consequence secondary to a focus of staphylococcal infection elsewhere. The

focus should be sought in the nasal sinuses, tonsils, and teeth, for if focal sepsis is found and eradicated the prognosis is greatly improved.

The treatment of early sycosis barbae is that outlined for impetigo. Hairs should be manually epilated from purulent follicles, the superficial pustules expressed gently, the lesions cleansed with isotonic solutions and mild antiseptics, the skin dried, and a lotion or paint applied. The watery solutions of the dyes or the zinc and copper sulphate lotion should be tried first, and if the skin becomes too dry ichthol cream is applied at night. Quinolol ointment has given excellent results in many cases of sycosis; it should be well rubbed into the affected areas night and morning or, better, alternated with a lotion by day. Watch must be kept against intolerance to a local application, or all the hair follicles will become inflamed and quickly pustular. X-ray therapy, in fractional or epilation doses and skilfully combined with the other local treatment, often produces a favourable turn in an obstinate case, but not infrequently all the present art of the dermatologist fails to cure the chronic case, which remains terribly vulnerable to the staphylococcus. Finally, a course of toxoid, vaccine, or preferably a mixture of both may do good; but often, although specific antibodies in circulation may be increased many-fold, the skin susceptibility to infection persists, and so does the sycosis.

Seborrhoeic Dermatitis

Seborrhoeic lesions are common and troublesome in war for reasons not difficult to understand. Whatever is the true nature of these conditions—and that remains controversial—the importance of constitutional factors is generally accepted. The subjects may be plump and placid or thin and nervous, but both types have moist greasy skins, have generally a liking for carbohydrates, and are always very prone to infections of their skins and mucous membranes. Nervous and anxiety states, limitation of protein and of protective foods, and restricted facilities for personal hygiene are the aggravating factors of war. The indications for general treatment therefore are clear, and it remains to consider the local conditions.

The indisputable seborrhoeic lesion is the pale pink macule which occurs on a scurfy scalp and tends to spread behind the ears and to the margins of the scalp, the midlines of the back and chest, and the folds and flexural surfaces. These lesions of seborrhoeic dermatitis are large confluent patches or discrete macules, circular, oval, or circinate in pattern, the latter suggestive of tinea circinata. The colour is a very pale pink as a rule; the lesions are irregularly covered with a soft, greasy, flaky scale, and irritation is slight or absent. Follicular papules topped by a small scale may be present on the greasy skin too, and acne vulgaris is common in the young seborrhoeic patient and rosacea in the middle-aged. This tendency to follicular lesions is further marked by a frequency of boils, indicating a characteristic susceptibility to staphylococci which probably accounts for many seborrhoeic lesions. The importance of the pityrosporon of Malassez, the organism predominant in scurf, remains doubtful, therefore, in spite of the fact that treatment of the scurfy scalp is the keystone of local therapy. For this purpose ointments of sulphur, salicylic acid, or resorcin are used to soften and remove the scales, the process being completed by a shampoo, using a 2% solution of sodium bicarbonate and a tablet of sulphur or carbolic soap. Spirit soap is very effective, but is more likely to irritate an inflamed scalp. A liniment of 5% salicylic acid in 1 part of spirit and 7 parts of castor oil, a cream of 2% ichthammol in lotio calaminae oleosa, and a lotion of 2% precipitated sulphur in calamine lotion are very useful for seborrhoeic lesions of the scalp and skin, while many of the remedies and methods used in the treatment of impetigo can be advantageously employed.

Mycotic Infections

The epidermophyton infections are by far the most common variety in war, and, since the feet are the usual sites involved, early diagnosis and effective treatment are essential. The former is usually simple, for an erosive dermatitis spreads from the toe clefts to the sole of the foot, with a circinate advancing edge of itching pustules or vesicles. The horny layer, separated

by exudation, breaks and peels off, leaving moist red tender areas. Distant groups of tense vesicles may arise in the middle of the sole, and sometimes the infection begins here. A scraping of the under surface of a vesicle mounted in 10% sodium hydroxide may reveal the fungus and confirm the diagnosis of tinea pedis.

Unfortunately, epidermophyton readily sensitizes the skin so that deep vesicles erupt on the soles and also on the palms, and in these vesicles no fungus can be demonstrated; nor do the lesions respond to fungicides, but usually they do resolve when the primary mycotic infection is cured. These allergic eruptions, called "epidermophytids," are clinically indistinguishable from the eczematous conditions of podo- and cheiro-pompholyx, which, like other types of eczema, clear up and tend to recur without any obvious external cause. Tinea relapses because of residual infection, often apparent in the fourth toe cleft as thick white cuticle, speckled at the sites of small vesicles. Eczematous lesions must not be treated with strong antiseptics or fungicides; hence the importance of recognizing them so that general and local sedative measures may be employed.

Pyogenic intertrigo of the toe clefts is often confused with tinea, but the septic process is more acute, the surface moist at the sites of ruptured bullae, and as a rule the infection spreads to the more delicate dorsal surfaces of the toes. Scabies may be the cause of vesicles and pustules on the feet, and from the infected lesions an extending pyogenic dermatitis sometimes resembles tinea. More rarely, pustular psoriasis or acrodermatitis perstans has to be distinguished from tinea, for in these conditions, clinically identical, groups of pustules erupt in the middle of the soles. These pustules are generally set in dry shiny red plaques suggestive of psoriasis; the contents are usually sterile, and treatment with fungicides is ineffective.

Epidermophyton infection of the groin—tinea cruris—is either secondary to tinea pedis or is acquired from infected lavatory seats or clothing and towels. As in the case of scabies and pediculosis pubis, tinea cruris may be a venereal contagion. The disease begins as small scaly pink macules, resolving in the centre and spreading centrifugally with a scaly edge so that by the time advice is sought the lesions are already circinate and the diagnosis rarely in doubt. Monilia infections are so similar that they are diagnosed as tinea; but this does not matter, because they respond to the same treatment. On the other hand, intertrigo when mistaken for ringworm is likely to be irritated by treatment with fungicides, and indeed this common lesion of the groin may be a sequel to the treatment of tinea cruris.

Intertrigo begins in the depth of a fold, as a bright erythematous patch, fading towards the edges—in contrast with the ringworm lesion. The friction of coarse woollen clothing on a moist skin often produces intertrigo of the inner sides of the thighs near or adjacent to the scrotum, and because of this location a diagnosis of tinea is apt to be made. Either of these lesions may be found in the axillae too.

Treatment of Epidermophyton Infections

The crural and axillary lesions will clear up in a week or two if treated efficiently, and a simple method is to use Whitfield's ointment—ung. acid. benzoic. co., B.P.C.—a little well rubbed in at night, and, after cleansing with soap and water in the morning, to apply a mild antiseptic lotion. The dilute mercurial ointments will also cure early infections, and when necessary the fungicidal effect can be enhanced by adding 4% of chrysarobin or 0.5% of derobin or cignolin. The sole use of such ointments will cure many cases of tinea cruris; but there is less chance of producing a dermatitis and the skin is more comfortable if kept dry with a lotion by day. Under-clothing must be disinfected. Tinea pedis should be treated on similar lines. The strong ointments are well tolerated, and 4% of tannic acid in acriflavine lotion is useful to control hyperhidrosis. Relapses are common because the fungus is protected from therapeutic agents by the thick horny layer of the sole, which is often greatly hypertrophied at the sites of infection. The trichophyton is even more inaccessible if it reaches the nail folds or under the nail-plate, where it may give rise to onychomycosis. So after an apparent cure

it is important to prescribe a spirit paint for use after washing the feet. A suitable one is 0.2% of mercury perchloride and 2% of salicylic acid in surgical spirit; this should be painted around the nails and in the toe clefts for at least six months. Its use on the soles of the feet would be a good prophylactic measure. Socks must be disinfected and the insides of boots treated with formalin.

Trichophyton infections, and occasionally microsporon infections, account for tinea circinata, the common ringworm of the glabrous skin. Diagnosis is easy as a rule, and the treatment is that given for tinea cruris. The pustular ringworms give more trouble, and tinea barbae is not infrequently confused with sycosis barbae. Ringworm of the beard area presents an indurated granulomatous swelling studded with pustules. These may show a circinate pattern and thus give a clue to the diagnosis, which may be confirmed with some difficulty by pulling a hair out of a pustule and mounting it, and the pus with it, in 10% sodium hydroxide. Fungus or spores may be seen with the 1/6-in. objective under restricted illumination. The usual treatment of tinea can be applied to tinea barbae, but the hairs should be epilated from the pustular follicles. Hot compresses of 5% sodium thiosulphate or of 10% lotio calcii sulphurati are often helpful. Large doses of sodium iodide should be tried in deep and obstinate mycotic infection.

Virus Infections

Herpes simplex most commonly occurs on the face, where it is often mistaken for impetigo. The sudden eruption of grouped vesicles on an inflamed base with preceding irritation is the clue to the diagnosis. Penile herpes is not uncommon, and must be distinguished from scabies and primary syphilis.

Zoster presents similar herpetic lesions, and when seen late in a confluent pustular stage the resemblance to impetigo is close. The sharply unilateral distribution and the rapid evolution of the full eruption establish the diagnosis, and a history of preceding pain or hyperaesthesia completes the clinical picture. If pain is severe hypodermic injections of 1 c.cm. of pituitrin, or sodium iodide in doses of 15 to 20 gr. t.i.d., may give relief. Herpetic lesions of both types are best treated with 1% phenol in calamine lotion.

Warts may be just unsightly or, owing to their situation, may be the cause of disability. In either case they are a virus infection, and so are likely to spread on the individual or to infect others. Treatment, especially of the solitary wart, is a much-neglected but important fragment of preventive medicine. When warts are few in number their complete removal or destruction should be attempted. Curettage with a sharp spoon and subsequent sterilization of the crater with pure phenol is often satisfactory. Cauterization by heat or with CO₂ snow has the advantage of leaving a dry surface, and after diathermy or galvano-cautery no dressing is required. These methods appear to be radical and certain, but they are not, for the virus may be distributed more widely than the lesion indicates, and under the stimulus of the virus the inter-papillary processes of the epidermis thrust deeply into the corium. The epidermal cells carry the virus with them, so that a single surviving cell presumably can account for a recurrence of the wart. Fortunately many warts disappear if they become involved in an inflammatory reaction, however slight, and this probably accounts for the successful use of x-ray therapy and of ionization, although considerable evidence exists of a favourable response to suggestion, which is inseparable from impressive techniques. When warts are numerous caustic paints should be used; but it is essential to pare away the thick horny cap continually, because it is resistant to most of the preparations that may safely be entrusted to the patient. Salicylic acid is a safe and effective keratolytic, and a 10% solution in collodion or spirit forms the basis of many paints for warts.

Painting is more effective if the wart is kept covered by adhesive plaster, and a resistant plantar wart may respond to this method if painted every other day with liquid phenol or 80% trichloroacetic acid in water. After several paintings the thick horny cap often comes away adhering to the plaster, leaving a deep crater, which should be again painted with phenol and dressed with ung. acid. salicyl. A pencil of CO₂ snow firmly pressed on a plantar wart for several minutes

until a narrow zone of normal skin around the wart is frozen will be followed by a bullous reaction which permits the wart to be dissected away with ease in a day or two. The crater should be dressed as above. Large plantar warts may be treated with x rays, and success can be expected in about 80% of cases. The treatment is painless, but an x-ray burn is not, and must be avoided by careful dosage. A previously untreated wart may be given a single dose of 600 to 800 r units through 1 mm. of aluminium at a kilovoltage of 90 to 120. Pain is usually relieved quickly, and the plantar wart should disappear in a month; if it does not, the dose may be repeated, but once only. A more cautious method is to give four doses of 200 r at weekly intervals exactly to the wart. Should irradiation fail it is important to avoid the use of strong caustics and cauterization, but the irradiated wart can safely be pared and kept under plaster. Ung. acid. salicyl. B.P. may be applied within a protective ring of felt.

Diseases due to Animal Parasites

Scabies.—The diagnosis of this common and troublesome disease may be easy and certain if typical burrows are present, or it may be so difficult as to baffle the most experienced dermatologist. Burrows should be sought in the creases of the wrist, of the ulnar side of the hand, and of the palm. It is not generally known how easily the acarus or ova can be demonstrated by wetting the burrow with 5% solution of caustic soda or potash and then scraping out with a scalpel and examining the scraping under the low power of a microscope. Even if burrows are not found, an itching eruption of fine papules on the wrists, the inner sides of the arms, the axillary folds, the umbilical region, the pubic area, the inner sides of the thighs, and the ankles is almost certainly scabies, and a history of familial cases increases the probability. It should be remembered that a patient with factitious urticaria will produce urticarial lesions by scratching scabies, and in children papular urticaria is often vesicular or bullous; so is scabies, and both may show the same distribution. Lesions in the finger clefts are misleading, since cheiropompholyx, eczema, and intertrigo imitate scabies there.

Treatment of Scabies.—When many treatments are advocated to cure a disease it usually means that none of them is satisfactory, but surely the exception to this aphorism is in the case of scabies. The present spate of new methods merely emphasizes the probability that any insecticide brought into intimate contact with every bit of infected skin will cure the infection. There are three essentials to success in the treatment of scabies. First, an attack upon the stratum corneum, which shields the parasite from the insecticide and indeed provides a veritable Anderson shelter for the acari on the palms and soles. Thorough scrubbing with a nail-brush and lots of soap on several occasions is usually necessary, although the use of strongly alkaline or soapy solutions, which themselves soften and penetrate the horny layer, gives a fair measure of success without the scrubbing. But the easy way is not the best. Secondly, every part of the body must be treated with the insecticide, and it is obvious that the chance of missing small areas decreases with repeated applications. To prevent dermatitis venenata arising from treatment, a limit, determined by experience with each remedy, must be set to the number of these applications. The third essential is the disinfection of the underclothing and night apparel. Recent experiments have made doubtful the necessity for sterilizing the outer garments and bedding, but where facilities exist the extra precaution can do nothing but good. Contacts must be treated or reinfection is likely to occur.

The choice of an insecticide is dependent upon what is available, and due consideration should be given to economy. The derris root treatment described by Captain Saunders (*British Medical Journal*, 1941, 1, 624) is clean, simple, and economical; briefly, it consists of six applications in two days of the following lotion. One teaspoonful of soap flakes to 10 oz. of a mixture of 4 oz. of derris root powder in one gallon of cold water. The lotion of equal parts of benzyl benzoate, industrial methylated spirit, and soft soap has become very popular, and the official cream is less irritating and more acceptable to the patient. After soaping, scrubbing, and bathing the benzyl benzoate lotion is painted on the wet skin and again when dry, and any residual lotion should be

used up next day on the areas most involved and on the thick skin of the palms and soles. Sulphur is an excellent insecticide and is more potent in an alkaline medium. The effective but messy ointment need not be used. There are many new emulsifying bases which make non-greasy ointments and creams to which 10% precipitated sulphur may be added. For example, 7% of lanette wax added to a simple ointment enables the product to be creamed with water. Good results have been obtained with lotio calcii sulphurati diluted 1 in 10; with 10% sodium thiosulphate followed by the application of dilute hydrochloric acid; and also with precipitated sulphur rubbed into soap lather and then into the skin. When sulphur is not tolerated 10% balsam of Peru in zinc ointment will be found useful.

The reaction of the skin to these remedies is mainly follicular, and the appearance of a rash of irritating red dots marking the irritated follicles is often regarded by the patient as an extension of the scabies, so that treatment is continued and extensive dermatitis results. This should be treated with calamine lotion, to which 2% of tar solution may be added. Luminal, gr. 1/2 b.d., helps to allay the irritation of the dermatitis or the psychic itch which lingers with imaginative folk long after the infection is cured.

Pediculosis

Pediculi are often the cause of irritation of the scalp, body, and pubic area, and it is surprising how often their presence is overlooked.

Nits or pediculi in the scalp are a simple explanation of local irritation and of scratch marks across the shoulders. A lotion of phenol 3% in liq. hydrarg. perchlor. should be applied liberally to the scalp, where it will kill the lice and prevent or cure septic infection. The same lotion will allay the irritation of the scratched skin.

Pediculi corporis should be looked for when a patient has soiled underwear, especially if by habit or necessity the clothing is worn night and day. Infested patients complain of irritation of the body, and excoriations and pigmented macules are often seen. The lice are to be found concealed in the seams of the underclothing, although in severe infestation they are present on the skin too. Various insecticide powders for dusting on the clothing provide a second-best method for the control of body lice, but the obvious solution is the improvement of personal hygiene and efficient disinfection of clothing and bedding.

The crab louse, *Phthirus pubis*, gives rise to an intense pruritus of the pubic area. The infection is often a venereal one, but it may readily be acquired from infected lavatory seats. Inspection of the pubic hairs, preferably with the aid of a magnifying glass, reveals the presence of the small dark nits close to the skin. It is not so well known that *Phthirus pubis* also attacks the axillae and eyelid margins. Treatment is simple, and the phenol lotion mentioned for the treatment of pediculosis capitis will do for the pubic and axillary areas. The weak sulphur and mercurial ointments are also effective, but strong applications must be avoided. For example, ung. hydrarg. has been responsible for much dermatitis and discomfort. So has the unnecessary habit of shaving the pubic area. The liberal use of soap lather is very helpful, and no doubt a paste of it with precipitated sulphur would be an excellent remedy. The ova are less readily destroyed, but if treatments are repeated at intervals of a few days the infection is soon ended. Disinfection of the underclothing is necessary.

A plan for the abolition of coal smoke from our towns and cities within ten years from the end of the war is outlined in the autumn number of *Smokeless Air*, the journal of the National Smoke Abatement Society (temporary address: 94, Manor Green Road, Epsom, Surrey). The proposed scheme (published for discussion and not yet officially adopted by the society) is based on proposals already made for the creation of smokeless central and other special zones as a part of post-war town planning, and suggests that in each town there should be a planned stage-by-stage extension of these zones until the whole town is smokeless. The rate of progress, especially when residential areas are reached, would depend primarily upon the rate at which increased supplies of smokeless fuels and appliances become available.