normal for age of subject. Respiratory and nervous systems normal. Alimentary system normal; there was no sign of ulceration of the mouth, fauces, tongue, etc.; liver, gall-bladder, and ducts normal. Genito-urinary system: both kidneys in the last stage of chronic fibrosis and contraction. The two organs together weighed less than $3\frac{1}{4}$ oz. (135 g.). The capsules stripped with great difficulty, leaving a torn shrunken granular surface.

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Squamous Epithelioma probably Due to Tar Ointment in a Case with Psoriasis

Squamous epithelioma arising as a result of chronic irritation by coal tar or its products is well known. The so-called tar warts in tar-workers are common. O'Donovan (1920) has observed that malignant change in these warts is easily remarked by the patient. It has also been repeatedly noted that it is the cumulative effect of regular exposure to tar products that works mischief. It might therefore be expected that squamous epithelioma would not be uncommon following the prolonged use of crude coal-tar ointment. Such occurrences are fortunately exceedingly rare. Henry (1946) could find only two references to cutaneous carcinoma (both fatal) related to the use of tar ointment. Moreover, he stated that in all probability both of these patients had received medicines containing arsenic, so that tar ointment might not have been entirely to blame. In a subsequent Hunterian lecture Henry (1950) stated that he had not been able to trace a single case of psoriasis (presumably associated with epithelioma) treated by a tar ointment or bath in which the patient had not also had arsenical treatment.

Prosser White (1928) quotes a case of cancer of the abdominal wall after continuous application of tar ointment. Squamous carcinoma associated with psoriasis is also a rarity. Alexander (1921; quoted by Keil and Trosow, 1948) could trace only 18 cases in the literature. In 11 of these there was a history of arsenic ingestion. Hannay (1949) reported a case associated with arsenic administration over a period of eight years, and reviewed the literature containing at least 10 cases. About half of them gave a history of having taken arsenic for long periods. Six of the cases were basal-celled epitheliomata. Hannay quoted Wright and Friedman as stating that arsenical epitheliomata which developed in persons with psoriasis almost invariably arose independently of that disease.

We present a case of squamous epithelioma arising on a patch of psoriasis. No history of arsenic administration could be traced, and the only agent applied to the skin that might have been carcinogenic was tar ointment.

CASE REPORT

In October, 1952, a man aged 31 reported to the surgical out-patient department of Glasgow Royal Infirmary. He complained of a small lump about 2 cm. in diameter over the head of the right fibula. The lesion was raised about 3-4 mm. above the surface of the skin. The edge was firm and rolled, and the centre showed slight ulceration without discharge. The lesion, which was superimposed on a patch of psoriasis, resembled the so-called button epithelioma. There was a diffuse discoid psoriasis and a marked tar acne with one or two of the lesions known as "tar mollusca."

The psoriasis began on the backs of the hands in 1943 whilst he was serving in Tunisia. It was treated successfully

with some form of violet ointment. Nine months later, when he was in Italy, it relapsed. It had recurred since at intervals of about one year. He denies having had any internal medicines for the condition at any time. When he reported in October, 1952, he had been getting local treatment with:

Salicylic acid	6%
Oleated mercury	20%
Coal tar	20%
Emulsifying base	q.s.

After 14 days on this ointment he developed "pimples with crusts" over the treated areas—the thighs and legs. Although these lesions were annoying and somewhat itchy, he did not seek advice, but continued to use the ointment for three months.

The epitheliomatous lesion was excised and the diagnosis of squamous carcinoma confirmed histologically. The scar was treated with contact x-ray therapy after it had healed.

COMMENT

There seems to be no doubt that the epithelioma in this case resulted from the overzealous use of an ointment containing coal tar. The latter substance is one of the standbys of the dermatologist. It is used in large quantities, often for long periods over extensive areas, for such chronic skin conditions as eczema, Besnier's prurigo, neurodermatitis, psoriasis, etc. Tar acne occurs in an appreciable proportion of cases, and is an indication for its immediate withdrawal. The absence of reports of epithelioma from the use of tar ointments suggests that such an event must only rarely occur. Cases of tar epithelioma of industrial origin are almost invariably accompanied by a pronounced tar acne which has been present for years. Moreover, the patient has usually remained at work with his tar acne, which has continued to be irritated by the offending tar product. It seems that the continued insult to the skin, after the initial appearance of signs of tar irritation, is the essential factor in the production of malignant change. Such persistence of irritation by the carcinogenic agent does not occur in patients treated with tar ointment, because the signs of irritation are recognized early and the application is withheld.

In the case presented above, a typical fairly severe tar acne was present after two weeks' application of tar ointment. The patient, ignorant of the risk, continued to use the ointment for three months, after which period the epithelioma developed. In contrast to the superficial splashing of the skin with tar products in industrial tar acne, in this case the offending tar product was actively rubbed into the skin. The ointment used contained 20% crude coal tar in emulsifying base. This is approximately equivalent to 40% crude coal tar in soft paraffin or lanolin. There is much more penetration of the skin when emulsifying base is used as the ointment vehicle. Even so, the period of irritation by tar was relatively very short. In O'Donovan's series of 16 cases of industrial tar epithelioma, the minimum period of working with tar prior to the onset of carcinoma was 10 years.

It is of interest to note that the epithelioma in the present case arose on a patch of psoriasis. Hannay (1949) has quoted Wright and Friedman and also Ormsby and Montgomery as stating that this is most unusual in cases in which the two conditions are concomitant. The application of tar ointment, even for a short period, may be fraught with danger if it is accompanied by tar acne.

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