A SURVEY OF TINEA CAPITIS FIVE YEARS AFTER TREATMENT BY X-RAY EPILATION

By N. A. THORNE, M.D., M.R.C.P.

Senior Registrar to the Skin Department, The London Hospital

and R. V. GRANGE, M.B., B.Chir.

Registrar to the Skin Department, The London Hospital

Microsporon ringworm infections of the scalp are at present relatively uncommon in this country; this applies particularly to *M. audouinii* infections. When they do occur the most reliable treatment is still by total epilation with X-rays (Beare and Cheeseman, 1951), but some examples of *M. canis* infection are more conveniently treated in this way.

A review of the late results of epilation of patients with microsporon ringworm between 1945 and 1947 has been recorded. Diagnosis was made by means of clinical examination, including the use of Wood's light, and direct microscopy. Routine cultures were not made at that time to differentiate between the two common types of infection. During the years 1945-47 a total of 365 children, all over five years of age, were epilated, using the Kienböck-Adamson technique (1907-09), in which five exposures were made, each of 400 r. at 75 kV without filtration.

Topical application of fungicides was continued after X-ray treatment until the hair had completely fallen, a close-fitting cotton or linen cap being worn during this period. All cases were observed after epilation until two examinations under Wood's light at an interval of three weeks had failed to reveal fluorescence of any hairs. In no case was it necessary to repeat epilation owing to failure of this method of treatment.

During 1953 a letter was sent to the parent or guardian of each child requesting that they should attend for examination: 128 attended, 28 replied giving reasons for non-attendance, two had died, 57 were returned through the dead letter office, while no reply was received from the remaining 150.

From replies given by patients, or their parents, there was no evidence of thinning of the hair following regrowth. Although the majority reported that the new hair was curly, this was not a permanent change. In 20 cases the hair was reported to be coarser, and in seven cases to be finer. Lightening of the hair occurred in five

children and darkening in 28. The latter finding is in keeping with normal changes in childhood. All patients and their parents were satisfied with the results of treatment and none had received further treatment by any method.

On examination the scalps of all the patients were found to be clinically free from ringworm and did not show any fluorescing hairs under Wood's light. There was no evidence of alopecia, atrophy, pigmentation or telangiectasia following radiotherapy, although there were local areas of baldness from Kerion in two patients. One child exhibited recent alopecia areata, five had scars from lacerations and 11 scars following boils on the scalp.

Of the 28 who replied but did not attend, one stated that there was local baldness at the site of the ringworm, while the remainder reported that the hair and scalp were apparently normal. No complaint regarding the treatment was received from the patients at any time.

Discussion

Sullivan and Bereston (1952), reporting the results of treatment of tinea capitis with fungicides, found that 5-chlorosalicylanilide was the best of 13 compounds tested. Cures were reported in 73.1 per cent. of patients infected with *M. audouinii* after up to eight weeks of twice daily applications and weekly clipping of the hair; 13.9 per cent. of cases treated by them with this drug developed folliculitis or Kerion.

Our results show that X-ray epilation has been a safe and radical treatment for microsporon infections of the scalp provided children under five years of age were excluded and the technique carefully carried out by an experienced radiographer. Its use in cases of *M. canis* cuts the period of infectivity by over one-half; its only drawback being that the child remains bald for some four months. Kerion formation with subsequent local alopecia occurred in less than 2 per cent.

Like Combes and Behrman (1948) we could find no evidence that irritants, such as Whitfield's ointment, applied before or after X-ray epilation had any but good effects.

Summary

In a five-year follow up of 365 cases of microsporon infection of the scalp treated by X-ray epilation 128 patients were examined and replies were received from a further 28. In no case was there any evidence of damage to the scalp or hair

from the radiotherapy, nor of recurrence of the ringworm.

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BIBLIOGRAPHY

- ADAMSON, H. G. (1909), *Lancet*, **1**, 1378.
 BEARE, J. M. (1954), *B.M.J.*, **1**, 356.
 BEARE *et al.* (1951), *B. J. Derm.*, **63**, 165.
 COMBES *et al.* (1948), *Arch. Dermat. & Syph.*, **57**, 74.
 KIENBÖCK, R. (1907), *Arch. Dermat. Syph. Wien*, **83**, 77.
 SULLIVAN *et al.* (1952), *J. Invest. Dermat.*, **19**, 175.

B. FAECALIS ALKALIGENES INFECTIONS WITH A REPORT OF A CASE OF SEPTICAEMIA

By I. M. LIBRACH, M.B., B.Ch., D.P.H., D.C.H.I.

Ilford Isolation Hospital

The organism *B. faecalis alkaligenes* is a member of the coli-typhoid dysentery group and has been classified with the non-lactose fermenting paracolony bacilli, members of which are known to be of varying pathogenicity to man, e.g. Kernohan (1952).

It was first isolated from stale beer by Petruschky in 1889. In 1896 he further differentiated it from *B. coli* and *B. typhosus*. He also recognized that it was pathogenic to animals and that it could cause a septicaemia. After examining 134 strains, Nyberg (1935) further classified it into two groups, (1) a non-motile bacillus with peritrichous flagellae having no fermentative reactions and which does not produce indol or alter milk, and (2) a vibrio which is motile and slightly alkalinises dextrose media. Cocco-bacillary forms have also been described by Indian workers. Chaudhuri (1944) considers *B. metalkaligenes* (Castellani) an important variant. It does not produce ammonia in broth as does the *B. faecalis* variety. He isolated it in six cases.

Reports of its pathogenicity have been world wide, most of them coming from the U.S.A., Australia, India and Egypt. I could only find six reported cases in this country since 1918. That it could cause a bacteraemia was recognized early. Wiltshire (1915) isolated it from the blood of three soldiers suffering from low irregular pyrexia of unknown origin. Hirst (1917) again isolated it 23 times from 123 blood cultures, i.e. 18.7 per cent.

Muir and Ritchie (1937) mention blood infection in cases presenting a transient febrile illness. Bacteraemia disappearing *without* treatment has recently been described (Weintraub and Neter, 1943).

Frank septicaemia with positive blood culture and intestinal haemorrhage was first reported by Lafforgue in 1908 (quoted by Andrieu *et al.*, 1936). Kraus (quoted by Goldberger, 1938) described a further case in 1913 in a nurse of 19 years with gastro-enteritis. It is not surprising, therefore, that since then numerous records of involvement of individual organs, either in sporadic or epidemic form and at all ages from infancy to old age have been described, e.g. acute meningitis (Gatewood, 1931; Mason, 1934; McGill and Mendel, 1953), abscess of neck (Pohl and Raymond, 1941), cystitis and pyelonephritis (Beckman and Reiss, 1924; Ahad, 1942), epidemic conjunctivitis (Barrow, 1931), hepatitis (McIntyre, 1936), keratitis (Couadou and Darbon, 1948), infective endocarditis (Cole, 1952), infantile gastro-enteritis (Webster, 1919), myocarditis (Andrieu *et al.*, 1936), orchitis (Hall and Garvan, 1949), serofibrinous pleurisy (Andrieu *et al.*, 1936), polyarthritis (Goldberger, 1938), foetal peritonitis (Sloboziano and Nasta, 1931). It has been recovered from gallstone (David and Green, 1929), from renal calculi (Stuart *et al.*, 1934), from ascitic fluid, knee joint fluid and gall bladder bile (Banerjee and Sarkar, 1949). Infections have also been