Summary and Conclusions

The symptoms and signs of 126 cases of trichomonal urethritis in male patients are reviewed. The use of fresh urethral scrapings and of urethral cultures are recommended for diagnosis and for follow-up. The value of the early morning smear and culture test in diagnosis is stressed.

The results of treatment in 112 cases are described. Moderately satisfactory results can be obtained by urethro-vesical irrigations, using a weak solution of potassium permanganate, oxycyanide of mercury, or dequalinium chloride.

The presence of urethral stricture may be responsible for some cases of failure of treatment and of early relapse.

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TRACTION ALOPECIA

BY

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Baldness is causing an increasing number of women to attend the skin clinic of Khartoum Civil Hospital. Many cases present the characteristic features of alopecia areata. In others there is evidence of infection or endocrine disturbance. In 12 patients, however, the diagnosis was not obvious. The alopecia seemed to result directly from the traditional hair style of the Northern Sudanese women.

The Northern Sudan Coiffure

The women of the Northern Sudan are extremely conservative in their cosmetic habits and retain the same hair style throughout life. The customary coiffure consists of many tight plaits, sometimes numbering 120 or more, which hang from the middle of the scalp. A coronal parting is introduced to divide the hair into four quadrants (Fig. 1). The natural length of the hair is often augmented by braiding black silk thread into the plaits. This gives the hair a greater apparent length

FIG. 1.—Scalp of Northern Sudanese woman showing characteristic hair style and alopecia.

(Fig. 2), the tresses often reaching to the buttocks. The silk incorporated in the plaits may weigh as much as 16 oz. (450 g.). The hair is braided every one to three months, the process of unplaiting and rebraiding usually occupying about three days.

This hair style, which is probably of great antiquity, is reminiscent of the head of Nefert in the Cairo Museum. The statue of Nefert, which belongs to the fourth dynasty of the old Kingdom of Egypt, is over five thousand years old. The hair style of Nefert, with its numerous short tight plaits, is, however, stated by Murray (1949) to be not real hair, but a wig.

Alopecia of Northern Sudanese

Some degree of baldness is very common among women of the Northern Sudan, but only the more sophisticated think it worthy of mention to a doctor. Of the 12 patients who reported to hospital, five were aged 14 to 19 years, six were 20 to 40 years, and one was 50 years. The lesser degrees of alopecia are not infrequently encountered before the menopause. Severe alopecia is seen only in later life, when the condition is usually accepted without complaint.

In the process of plaiting, the hairs nearest the midline are more tightly stretched than those situated peripherally. There is a progressive thinning and atrophy of these hairs, which produces a diamond-shaped or rectangular area of baldness enlarging the central partings (Fig. 1). The area of baldness extends laterally and sagittally, sometimes leaving a few isolated hairs, too sparse or too short to be incorporated in the plait. No inflammatory changes have been seen in the

FIG. 2.—Northern Sudanese woman with silk braided into her hair.

bald area of the scalp, even when the condition is actively progressing.

The women of the Northern Sudan are very reluctant to change their hair style, but three of the milder cases, in which the patients were persuaded to abandon the tight plaits, showed evidence of regrowth of hair within a month or two. As the alopecia progresses, the central bald area is naturally left undisturbed. In such advanced cases of long standing there is little or no regrowth of hair in the centre of the bald area.

Aetiology

The association of baldness with braiding of the hair in the Sudan is mentioned by the British explorer Bruce (1790). The Sittina of Shendi asked him whether he had medicine "to make her hair grow, or rather hinder it from falling off." He noted that "she was a woman scarce 40 . . . her hair was plaited in 10 or 12 small divisions like tails which hung down below her waist . . . with a kind of round cap of solid gold upon the crown of her head, all beat very thin." Bruce advised her to refrain from wearing the gold cap as the most likely cause of her falling hair.

None of the patients seen in the Khartoum Civil Hospital had any cap or gold ornaments on their scalps, the only covering being the thin cotton veil or "tobe." Mild seborrhoea capitis was present in one only of the 12 cases. In another the alopecia had been aggravated in the months following her two deliveries, but had not disappeared in the two-year interval between them.

There was no history of preceding fever or any evidence of tinea, syphilis, or the characteristic lesions of alopecia areata. One 16-year-old patient had a small simple goitre. Another, also aged 16, showed signs of mild hyperthyroidism. Otherwise the general health and nutrition of the patients were good.

The most striking features of the alopecia were the absence of inflammation, the distribution in the middle of the scalp where the stretching of the hair was greatest, and the improvement in those who changed their hair style. The most satisfactory explanation of the baldness is that it is the result of sustained traction on the hair exerted by the tight plaits.

In certain other types of baldness, trauma applied to the hair may be responsible for the condition. These are considered briefly.

Alopecia from Brushes and Combs

Savill (1958) has emphasized the importance of nylon brushes as a cause of alopecia. In the present shortage of natural hog bristle, nylon is being increasingly used in hair-brushes. In some of these the nylon bristle is not properly rounded off but is cut sharply across to leave a cylindrical end. There is then a risk of avulsion of the hair and, in time, thinning of the scalp. Only one example of this has been observed in the Sudan, and that was in an expatriate.

The Zande youth (Fig. 3) has a thin line of baldness running coronally across the head at the anterior margin of the hair. It appears to result from the trauma of the hardwood comb which he holds in his hand. The teeth of the comb are thrust horizontally back in the scalp

and the tip of the handle is elevated. This causes the anterior hairs to be drawn into the apex of the triangle of the comb-teeth. These hairs are therefore subjected to greater tension than the rest when the comb is forced backwards and downwards.

Alopécie Liminaire Frontale

Sabouraud (1931), under the title "alopécie liminaire frontale," described a type of baldness forming a ribbon-like band across the front of the scalp from temple to temple. He stated that this was a rare condition of which he had seen only 10 or 12 examples in 30 years. The photograph illustrating this condition in Sabouraud's (1932) book shows a patient whose hair is drawn firmly back to form a tight bun in the occipital region. The bald area has appeared in the part of the scalp in which the roots of the longest hairs have been drawn taut in making the bun. Sabouraud was uncertain of the cause of the baldness, but the distribution closely resembles that of the Zande youth (Fig. 3).

FIG. 3.—Zande youth showing baldness from the habitual use of a hardwood comb.

Baliña (1932, 1937) described similar cases in South America. He expressed the view that the condition was caused by strong continuous traction of the hair, through the use of hair curlers. Further cases have been reported by Miskjian (1936), Kam, Light, and Walker (1949), and Savill (1952). More recently, Slepian (1958) has described alopecia occurring in 24 young American girls as a result of traction from wearing pony tails. The baldness appeared at the roots of the tightly stretched hairs at the periphery of the scalp. Sometimes a fringe was worn. The baldness then appeared along the parting between the fringe and the pony tail at the roots of the tightly stretched hairs.

Alopécie Marginale Traumatique

Ribeiro (1937, 1938) described, as "alopécie marginale traumatique," a condition, occurring in negresses and mulattoes, of baldness above and anterior to the ears, which might subsequently spread. Casals (1938) reported cases from Cuba in the same type of patient, mainly over 40 years of age. Costa and Junqueira (1943), from Brazil, observed cases similar to those of Ribeiro. They stressed the role of curlers applied tightly to smooth out the characteristic kinkiness of negro hair. Anderson (1950) found examples in American negroes and negresses who had employed hot metal combs for the same purpose. Costa (1946) reviewed the condition of traumatic marginal alopecia and described certain variants on the general type. Ribeiro (1938), comparing his own cases with those of Sabouraud, pointed out that

European women use curlers simply to curl their hair. When the hair has been curled the instrument is removed and only re-employed intermittently. The negress and the mulatto, however, use the curler continuously to maintain a constant stretch on the hair, thereby concealing its kinkiness.

Kinkiness of the hair is regarded with disfavour by many races. Fig. 4 depicts the attempt of an Egyptian girl to disguise it. A gold clip has been placed coronally across the head and used as a fulcrum in pulling the hair tight with curlers. This has resulted in baldness over the temples and across the front of the scalp. It is not only hair curlers which cause such baldness.

FIG. 4.—Egyptian girl with alopecia due to a coronal gold band and tight curlers.

Spencer (1941) described the case of a 48-year-old negress who was bald, above and anterior to the ears, as a result of tight braiding.

Allied Types of Alopecia

Sabouraud described a second condition associated with the wearing of a bun or "chignon." In "alopécie du chignon," areas of baldness develop at the level of lambda.

The condition was observed in women of 30 to 50 years of age and was not associated with inflammation of the scalp. The area of baldness occurred where the bun rested on the scalp. The most probable cause would appear to have been the traction and twisting of the hair necessary to form and maintain the bun. A variant is the ophiasis celsi, or snake-like alopecia, which is found in women with a circumferential coiling of the hair. Examples of this condition have been reported by Costa (1946) and Omens *et al.* (1954, 1955). The hair is pulled tight in a curved line round the periphery of the scalp, and the baldness develops along this line.

Traction Alopecia

All these forms of alopecia, despite their differing distribution, are associated with traction on the hair. The multiplication of anatomical descriptive terms disguises the central fact that traction is common to them all. Permanent baldness often results from long-continued traction. The hairs may recover, however, if traction is promptly stopped by altering the hair style. The term "traction alopecia," as recommended by Slepian, should be applied to this group of conditions.

European women do not often suffer from this type of baldness, certainly not in its extreme form. They seldom subject the hair to such intense traction, and they change their hair style from time to time. They are, as Ribeiro pointed out, very sensitive to the slightest sign of baldness and will rearrange their hair style to hide it. Traction alopecia will be encountered, therefore, most often in non-Europeans.

Summary

Women of the Northern Sudan develop baldness over the centre of the scalp in association with tight plaiting of the hair. The condition is the result of traction on the roots of the hair. Other examples of traction alopecia are quoted, and the importance of relieving the traction is emphasized in order to prevent permanent loss of hair.

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The dramatic decline in the incidence of tuberculosis in all but the oldest age groups during the past few years is reflected in a report on the future of the chest services prepared by the Standing Tuberculosis Advisory Committee, and now commended by the Minister of Health to the attention of hospital authorities. One of the main recommendations is that in new hospitals beds should be available for diseases of the chest, some of them being set aside for cases of tuberculosis. Similar provision should be made in existing general hospitals where possible; otherwise existing suitable sanatoria and chest hospitals could be used as chest departments of near-by hospitals or run in close association with them. After recommending that the chest physician should be a member of the staff of a general hospital, with a primary duty to tuberculosis patients, the report emphasizes that it is important that he should work closely with the medical officer of health on epidemiological and preventive implications, and continues, "The end of the epidemic prevalence of tuberculosis in our community can now be seen as an attainable object, although it may be many years ahead." The report continues: "The normal pattern of the future should be that appointments in chest diseases should be to the staffs of general hospitals, the chest clinic being integrated into the general out-patient department of the hospital and sharing the general services of the department. Only if some such policy is adopted will young doctors considering their future careers see in diseases of the chest the prospect of continuing work during their lifetime, even though the decline in tuberculosis continues."