BALD RING WORM,

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CERTAIN cases of Alopecia areata may closely resemble ringworm on account of the short broken stumps scattered over the patches, and conversely ringworm can sometimes offer the greatest likeness to Alopecia areata, so much so that a diagnosis may be almost impossible.

The relations between ringworm and Alopecia areata have been more studied in England than in other countries, but opinions still widely differ on this subject.

Mr. Jonathan Hutchinson* considers Alopecia areata as a distant sequel of ringworm, and quotes many cases where Alopecia areata occurred in adults who had had ringworm in their childhood, or who had been in contact with children affected with ringworm.

Dr. Radcliffe Crocker† has found in many cases of Alopecia areata a few disseminated spores on the roots of the hairs surrounding the bald patches, and he is inclined to ascribe to a trichophyton the cases of epidemic Alopecia areata. He also has published several cases of Alopecia areata in persons exposed to the contagion of ringworm.

It has been long ago noticed that cases of ordinary ringworm can in time become bald without any apparent inflammation. The infected

* JON. HUTCHINSON, "Archives of Surgery," *passim*.

† RADCLIFFE-CROCKER, *The Lancet*, 1891; and "Diseases of the Skin," 2nd Edition, London, 1898, p. 756, *et seq.*

hairs become atrophied, and fall out, new sound ones growing up in their place. Liveing and Aldersmith* have quoted many cases of this variety of the disease, and we have several times seen it in common ringworm, but the change was usually partial and gradual, so that one could see on the same scalp the scurfy patches with broken hairs together with the bald ones, and the diagnosis was therefore made easy.

Sometimes, however, the change is more general and sudden, and a case of typical ringworm may in a few weeks take on the appearance of Alopecia areata.

Jos. Schütz,† T. Robinson,‡ Hartzell,§ and Whitehouse,|| have published similar cases.

The last-mentioned author describes the case of several persons in the same house who had ringworm, where there was a cat that had a bald patch, though in it no fungi were found. A most interesting case was presented last year to the Dermatological Society of London, by Dr. Aldersmith.¶ In this case no fungus was to be found anywhere, and, with the exception of a few stray hairs, the patches were quite bald. This case would certainly have been mistaken for Area Celsi if it had been seen then for the first time, especially as there were numerous point-of-exclamation stumps. It was a case of Trichophyton endothrix of the resistant variety, and had been treated with sulphur ointment. This case is of special interest to us, as we have seen several examples of partially bald ringworm under similar circumstances; they all showed the resistant Trichophyton endothrix (a form of parasite apparently rare in London, though common in Bordeaux), and had been treated with sulphur ointment.

The cases to be described hereafter presented, on the contrary, ectothrix Trichophyton, and the transformation was very sudden, especially in the second case.

* ALDERSMITH, "Ringworm; Its Diagnosis and Treatment," 3rd Edition, 1885.

† JOS. SCHÜTZ, "Beitrag zur Ätiologie und Symptomatologie der Alopecia areata," *Monatshefte f. prakt. Dermat.*, 1887, No. 3.

‡ T. ROBINSON, "Alopecia areata, Sycosis parasitaria, and Herpes tonsurans on the same individual," *British Med. Journal*, 1885, i, 1040.

§ HARTZELL, American Dermatological Association, 1892.

|| WHITEHOUSE, "Case of Ringworm of the Scalp simulating Alopecia areata," *Journal of Cutaneous and Genito-Urinary Diseases*, 1893, 399.

¶ ALDERSMITH, *British Journal of Dermat.*, 1895, 111.

CASE I.—Camille, G., is a fair-haired, healthy boy, $6\frac{1}{2}$ years old. The first patch was noticed three months ago on the right side of the head.

October 22nd, 1895.—“There are six patches from 1 to 2 centimètres broad, round, without any trace of inflammation, bald, and slightly scaly. The largest and oldest is the size of an almond; its surface is white, very slightly depressed when compared with the neighbouring parts, with a faint scaliness which is not more marked on the edge than the centre. The bordering hairs appear sound, but some of them come off easily with an atrophied root as in Area, and two or three exclamation-point hairs are to be found.

“The other patches are smaller, and have appeared later. They are a trifle more scaly than the first. On each of them are a few broken hairs, which are 1 or 2 millimètres long, twisted, brittle, and surrounded by a fine white asbestos-like root-sheath. The long bordering hairs have no sheath, and come off with an atrophied root.”

In this case the resemblance to *Alopecia areata* was very great, the only difference being the slight scaliness and the few broken hairs.

A few days after, no treatment whatever, not even washing having been employed, the likeness to *Alopecia areata* was greater still. The patches were quite bald and smooth, the few scales and broken hairs had entirely disappeared, but another patch had made its appearance as a scaly spot, the size of a lentil.

The scales and hairs were examined microscopically with the following results:—

A.—The long hairs on the edge of the large patches showed thin and atrophied roots, exactly as in *Alopecia areata*, but no spores nor mycelium.

B.—In the thin white scales from the largest patch were clusters of small, closely set, uneven, and polyhedral spores bearing some likeness to the spores of *Pityriasis versicolor*, but smaller, measuring 3μ , and without any mycelial threads.

C.—The long hairs from the edge of the small patches were exactly like those from the large one.

D.—The short broken hairs from the small patches are surrounded by a sheath of closely-set, regular spores, 3μ in diameter; on the surface of the hair they form a mosaic, and on the edge they appear to form a sheath of several layers.

In the places where the parasitic sheath is interrupted, mycelial threads 3μ thick are seen on the surface of the hair; they are wavy, but with a generally longitudinal direction, divided into segments whose length is three times their breadth. Occasionally their threads run up into clusters of small spores. We have not been able to ascertain whether or not there were any mycelial threads inside the hair.

The family pet cat is affected with a skin disease which involves nearly the whole of the body. The skin is covered with scales and small grey scabs, which make it very rough and dirty-looking; the hairs are easily pulled out, and some of them have a white sheath round their root; the underlying skin is red, but neither thickened nor weeping.

The scales contain some clusters of small round spores. Most of the hairs are normal, but some of them, generally thicker than the others, are broken and surrounded with a parasitic sheath made up of small round spores, of 3μ in diameter, closely set, as a mosaic pavement, when seen on the upper or lower

surface of the hair, and, when seen on the edges, forming four or five rows, thereby increasing two-fold the apparent thickness of the hair. No mycelial threads are to be seen inside the hair, or on its surface. The microscopical appearance of the fungus is therefore exactly the same in the cat as in the child.

November 19th.—The boy having caught a cold, no treatment has been applied. The patches are still the same, except that on the largest, small hairs are growing up. They are pale and fine, as in *Alopecia areata*.

January 7th, 1896.—The hairs have grown up again on all the patches, which can hardly be recognised.

Cultivations have been made with the hairs of both the child and the cat, and both series of cultures were identical in all the different media used.

1. *On Sabouraud's "milieu d'épreuve" in Erlenmeyer's Flasks.*—On the fifteenth day the colony is five centimètres broad, regularly circular, covered with abundant aerial hyphæ, giving it a downy appearance, and a great resemblance to the fur of a white rabbit or a young cat. Its colour is snowy-white, except just at the centre, which is slightly lower and of a very pale brown. The colony is surrounded by a band half a centimètre broad of immersed mycelium.

2. *On Malt Infusion, solidified with Agar-Agar in Test-Tubes.*—The cultures have very much the same appearance, but the down is not quite so high. In a few days the mycelium reaches the surface of the tube and forms a thin film, covering the whole of the inner surface of the glass.

The microscopical examination of the cultures shows mycelial threads of very uneven thickness, the largest giving off, at acute angles, thinner branches. No spores are to be seen in the external parts of the colony, but in the middle the aerial hyphæ are covered with bunches of chlamydospores, each divided into ten segments, and with a thick membrane. In the older cultures the chlamydospores have all fallen off.

3. *On Potato.*—The fungus spreads quickly all over the medium, covering it with a very thin and delicate veil of long, white, downy mycelium, through which the potato appears unaltered. The microscopical aspect of the mycelium is very much the same as in the other media, and no spores are to be seen. The ends of the mycelial threads are swollen out and divided by a few septa; they seem to be incomplete chlamydospores.

CASE II.—Gaston R., 10 years old. When seen on May 11th, 1895, the disease had lasted for one month. This note was then made: "At present the right side of the scalp is covered with scaly patches of different sizes, the smallest being the size of a lentil, and the largest the size of the palm of the hand. They are round, clearly defined, covered with bright white scales, which entirely conceal the skin. Among the scales are a few small yellow scabs, the size of a pin's head, but there are no other signs of inflammation. Except just in the middle of the largest patch the hairs are neither broken nor missing; they look dry, and have lost their gloss; most of them have a long white sheath rising up to three or four millimètres above the skin. The diseased hairs are easily plucked out, some of them coming out with their roots, others breaking off in the follicle.

The microscopical examination of the hairs shows that the white sheath is formed partly by epidermic scales, and partly by a fungus. When the latter is abundant it forms a regular pavement of small, even spores, 3μ broad, covering

the surface of the shaft. Where the sheath finishes the fungus forms small clusters of spores, or a fringe of long beaded hyphæ, running longitudinally along the surface of the hair. Inside the hair are to be seen a few threads, either segmented or not, sometimes with the appearance of a row of beads.

On the back of the neck are a few scaly patches. The scales do not contain any fungus, but the small hairs are covered with a sheath of spores.

The child was directed to wash every day with soap and water, then with corrosive sublimate solution (1-1000), and to put on a sulphur ointment.

May 29th.—The size of the patches is the same, but their appearance is quite altered. Both the scales and the hairs have entirely disappeared, so that the patches are quite smooth and bald, except for a few healthy hairs which remain; some of them are surrounded by a small red area, but the microscope fails to discover any fungus either in these few straggling hairs or in the neighbouring ones. As the patches are round and clearly defined, they are not to be distinguished from Alopecia areata.

June 12th.—A few small very fine hairs are beginning to make their appearance, but not one diseased hair is to be found.

Cultures.—1. On Sabouraud "*milieu d'épreuve*" in Erlenmeyer's Flasks, the colonies after one month are six or seven centimètres broad, flat, slightly raised in the centre, their surface is smooth, looking like very fine velvet of a greyish-brown colour, and covered with a layer of fine dust; all round the edge the brownish dust spreads out in thin streaks, which follow the principal branches of the immersed mycelium.

In order to see the mode of fructification the cultures must be examined very early, before the fifth day. One then finds a very few chlamydo-spores, and an enormous quantity of very small round, brownish spores, clustered together in very dense and composite bunches.

2. The Cultures on Potato form a cream-coloured, thin, opaque sheet of free spores; no aerial mycelium is to be seen, and the medium is not coloured round the fungus.

Both cases are not identical, as the destruction of the hairs was more gradual in the first than in the second. The microscopical appearance of the hairs was very much the same in both cases, but cultivation showed two quite different fungi, one certainly, the other very probably, of animal origin. They remind one of Hillairet's well-known case where a series of clerks in the same office took Alopecia areata from a cat.

These cases of acute bald ringworm give a positive foundation to the opinions of English authors who have upheld the relation of ringworm and Alopecia areata, but with the difference that ringworm does not give rise to true Alopecia areata, but to a false appearance of it.

Bald ringworm must also be clearly distinguished from what the Italians have called "*Pseudo-Area*," and Sabouraud "*Tondante*"

peladoïde," which is a form of ringworm where the hairs are broken short and are to be seen as little black dots. In the latter affection the resemblance to Alopecia areata is not at all so close, and the disease is caused by a Trichophyton endothrix of the fragile variety, the same parasite which causes Liveing's disseminated ringworm.

THE NON-IDENTITY OF YAWS AND SYPHILIS.

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THE hypothesis that yaws is a modified form of syphilis is one which is still supported by certain observers. Much of the difficulty that has arisen is due to the fact that the majority of those who hold that the diseases are the same have either studied descriptions only, or at most only seen isolated cases of yaws, whilst those with an extensive everyday experience of yaws are so in the habit of readily differentiating it from syphilitic and other diseases, that they scarcely appreciate the difficulty that some have in admitting yaws to be a disease *sui generis*. It may be added that those who hold that the diseases are identical do not specify what form or manifestation of syphilis they suppose yaws to be. If told that yaws is mainly a disease of children, we are answered that it is congenital syphilis; or if the occurrence in adults be alleged, then that it is the acquired form; if mentioned as a general eruption it is secondary or tertiary, according to the duration; if it appear as a solitary yaw from inoculation, then it is a primary chancre; and yet all these cases are readily identified as yaws by those familiar with the disease.

Yaws is a disease manifesting itself by a more or less general definite eruption. It is inoculable, and has an incubation period of some weeks, over two and under eight, being usually given, a limit which accords with my own experience. This incubation period is followed by a local lesion, which is followed by a more general eruption in successive crops, extending over a period of from one to three years. The disease is accompanied by some constitutional dis-