Original Articles.

CONTAGIOUS AFFECTIONS OF THE SKIN IN PREPARATORY SCHOOLS AND COLLEGES.

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BOSTON is well known as a center about which are grouped a large number of preparatory boarding schools and colleges for both sexes, and in a dermatological practice of twenty-five years I have seen or had knowledge of many cases of cutaneous disease in students of these institutions.

Very many of the skin affections that occur during the life of man manifest themselves at a somewhat early period. Besides the numerous congenital and acquired abnormalities of the integument that appear in infantile life, there are a considerable number of disorders that first make themselves known at or about the period of puberty. Acne and seborrhea in their various forms are usually first to be seen at this epoch; various types of eczema, dependent more or less on the development and alteration of the nervous mechanism, are constantly met with, and the larger number of cases of psoriasis assert themselves for the first time during adolescence or early adult life. The acute exanthemata, most common in childhood, are quite frequently delayed until the age of fourteen and over, and the danger of an epidemic of measles or scarlet fever in a boarding school for either sex is one of the subjects of greatest concern to the administrative officers.

Apart from this rather large class of cases affecting the skin in a greater or less degree, there are a number of purely cutaneous diseases, most, if not all, of them undoubtedly communicable, which are of common occurrence in preparatory schools and among the younger members of colleges. It is from these sources that the following brief descriptions and comments are drawn.

IMPETIGO CONTAGIOSA.

An occasional case of this affection, entailing as it does the occurrence of one or two others among the immediate surroundings of the subject, is constantly seen in preparatory schools both for girls and for boys, and among the younger members of the colleges. In some instances the lesions are very numerous and closely aggregated, in others few in number and widely scattered. As usual in this affection, the lesions are most prominent on the parts of the body uncovered by clothing; although in the case of those engaged in athletics many cases were observed where the lesions were present on other parts of the body. The term "impetigo contagiosa" is used here to represent the cases of superficial cutaneous abscesses caused by pyogenic micro-organisms other than the vegetable parasites. Their appearance, as is well known, is that of superficial, thick, sharply bounded crusts without infiltration of the base. Many of these cases were found in members of

football and hockey squads; in some instances half a dozen or more were affected at about the same time. In several instances the affection could be traced to a sweater that had been laid aside or had been used by some person previously affected. An interchange of clothing worn next to the skin is evidently a fruitful source of contagion. A few of these mild epidemics were observed in the girls' schools, most of them in preparatory schools for boys, and among the younger members of the colleges. In one or two instances the source of infection could be traced to some individual who had introduced it after a return from a camping expedition. In some of the instances, as in the ordinary form seen in adult males, the affection seemed to have been acquired either at the time of, or after, shaving.

One instance was observed where sixteen or seventeen cases occurred at the same time in a preparatory school for boys in this city whose inmates numbered from fifty to sixty.

The treatment of this affection in these instances is naturally most satisfactory when its nature and etiology are recognized. As in the case of furunculosis, strict asepsis of the whole cutaneous surface is desirable, if not imperative. This means a thorough scrubbing of the whole body twice a day with warm water and soap; after this, bathing with a mild antiseptic, preferably a saturated solution of boracic acid in water, is advisable. To the lesions themselves a mildly germicidal ointment or paste is to be applied, consisting of a 10% ointment of boracic acid with the addition of 5% of sulphur and of salicylic acid. Where the lesions are isolated and less extensive, a 5% ointment of ammoniated mercury in cold cream or lanoline and vaseline is most effective. A thorough cleaning and disinfection of the clothing that has been in contact with the skin is naturally of the utmost importance.

SCABIES.

During the last twenty years the increased prevalence of this affection among the more cleanly classes of the community has frequently been commented upon. Those whose special medical interests bring them into more frequent contact with such affections have called attention to the fact that a great many cases have been, and still are, overlooked by the general practitioner, who does not entertain the possibility of such a contagion in the case of the cleanly individual belonging to the better classes. That such cases have occurred with considerable frequency has been abundantly proved. In the case of preparatory schools and colleges, I have been, on the whole, rather surprised at the small number of cases that have come to my notice, or that I have been able to hear of from health officers of these institutions. As this affection is one that is usually communicated either by sleeping with an infected person or in a bed that has been previously occupied by an infected person, the small number of cases occurring

speaks well for the hygienic arrangements of these institutions. Naturally in such instances a chum or some other person with whom the subject was in intimate relations has also been infected, but no instances of widespread infection have been found. As in the case of impetigo contagiosa, the infection has often been acquired in some camp in the woods which has been occupied during a shooting or fishing expedition. The ease with which this affection is cured, when once its nature has been established, is well known to all; but the axiom that all clothing that has come in contact with the skin must be thoroughly boiled or disinfected cannot be too strongly insisted upon.

RINGWORM.

Ringworm of the scalp, so-called tinea tonsurans, is practically never found in adults. No cases of this affection have been found in the class of subjects which I am considering, a large majority of whom were beyond the age of puberty. A moderate number of cases of tinea tricophytina of the non-hairy parts would seem to occur, and occasionally it has been noted in the beard. No cases of extended epidemic have, however, been observed. Its occurrence on and about the thighs will be discussed under the next heading.

MARGINATED DERMATITIS OF THE THIGHS AND AXILLÆ.

One of the most common affections of the skin in boys and young men, especially among those who frequent the gymnasium and are engaged in athletics, is a dermatitis about the genitals, which usually extends downwards in sharp outline over the thighs. In a certain proportion of these cases, the axillæ, one or both, are affected in the same way. The left axilla is more often affected than the right. This dermatitis is of an erythematous and scaling type. It rarely goes on to exudation except in cases where a very stimulating mode of treatment has been used. I have used the word "dermatitis" in describing this class of cases as being less prejudicial to the etiology. Many of these affections have been described as marginated eczema. Under this latter heading there have probably been included affections which have a similar clinical appearance but a varying etiology. In some of the cases a vegetable parasite, apparently identical with tinea tricophytina, can be demonstrated. In a large number of other cases no infectious agent can be detected. There is good reason to believe that there is a contagion that is active in all of these sharply outlined lesions. It is quite possible that several different agents may produce in this region, where there is so much warmth and moisture, similar clinical appearances. As a rule, these cases occur in a number of instances at or about the same time. Members of crews and football squads are often affected in numbers. In those especially susceptible or in those who have applied too stimulating treatment, a dermatitis may be set up in other parts of the body, and this is particularly

true of eczematous subjects. In treating this affection, it is important to remember that many stimulating remedies, which may be applied with effect in other situations, are not well borne here. In the fold of the groins it is rarely advisable to use anything in ointment form, lotions and dusting powders being of most avail. In general, dry powders are of more value than moist preparations. Boracic acid washings in concentrated aqueous solutions are of great value, as well as the application of boracic acid in powder, either pure or diluted. Parasitocidal ointment may often be applied with good effect to the spreading margin of the patch. Great care should be taken to prevent the surfaces of the skin from coming together, by the insertion of small wisps of absorbent cotton in the folds. A tight suspensory bandage is undesirable, but a loose contrivance of soft cotton, so adapted as to support and protect the parts, is most serviceable.

ALOPECIA AREATA.

Alopecia areata has not been shown to be a contagious affection, yet there is much evidence in support of the theory of those who believe that at least some of the cases are communicable; and in this inquest of skin affections in preparatory schools and colleges, a number of instances have been noted where two subjects who either slept together, or were in constant communication with one another, developed the affection.

Although not occurring in a preparatory school or college, it seems to me of interest in this connection to refer to a remarkable instance of two epidemics of alopecia areata in an asylum for homeless girls between three and fourteen years of age, the first of which epidemics was described by Dr. C. P. Putnam in the *Archives of Pediatrics*, August, 1892. A description of the two epidemics was presented by me to the American Dermatological Association and published in the *Journal of Cutaneous Diseases* for September, 1899. In summarizing these epidemics, it was noted: A girl of eleven years, who had lived for eight years in an asylum for girls, was found to have several spots of baldness which had the appearance of an alopecia areata. Soon after, another similar case was discovered, and four months later sixty-three of the sixty-nine children in the asylum were found to be affected. At the end of two months the areas began to fill in, and at the end of six months only a few patches could be found.

The girl in whom the affection was first observed left the institution and was away for three years. It is not definitely known whether the hair had grown over all the bald areas or not, but probably some small areas had persisted. Six years after the first epidemic, she re-entered the institution at the age of seventeen. A month or six weeks after her entrance, spots of apparent alopecia were found on the head of one of the children, and four or five months after her return twenty-six of the forty-five children then in the institution were found to have spots of baldness of the same character as those of the first epidemic,

areas in no way differing from those of alopecia areata as ordinarily seen. Such epidemics as this have been described by the French, but are practically unique in this country. It illustrates the need of frequent examination of the female scalp, especially in schools and institutions, as otherwise such cases may become quite widespread under similar conditions before attracting notice.

VERRUCÆ.

It has long been the opinion that common warts such as are seen upon the hands and exposed portions of the skin of children and boys are contagious; and clear scientific proof of the accuracy of this theory has been recorded. Such appearances are naturally not uncommon among the class of patients which I am at present considering. The resident physician of a large female college writes to me that she has been much struck by the appearance of warts on the fingers and hands when the students return for the autumn term from their summer vacation. The history almost always is that the warts appeared suddenly during the summer, and often they are on parts not subjected to pressure.

My attention has been particularly directed to warts upon the feet, of which I have seen many examples, generally in boys and young adults. This subject was discussed by me in an article printed in the *BOSTON MEDICAL AND SURGICAL JOURNAL* for Dec. 12, 1907.¹ These warts are usually situated upon the plantar surface. In some instances, in connection with the plantar warts, there are warts upon the palms. Of the thirty-four cases which I had personally seen and treated, twenty occurred in boys who were attending either a preparatory boarding school or Harvard College, and it is quite apparent that such cases are most numerous in schools and colleges. In some instances I have noted a pronounced epidemic of these plantar warts. In one preparatory school almost a third of the boys were at one time affected. Although by far the larger number of cases that I have seen have occurred in preparatory schools for boys and in the younger members of colleges for males, the affection has, in my experience, proved much more prevalent in schools and colleges for girls than among those of the female sex of a similar age who are not in such institutions. In the same large college for girls that has been referred to, I am told that a very large number of cases were observed at one time, two years ago in the autumn; so many, in fact, that the resident physician writes that it seemed as if the summer had been particularly productive of that kind of growth.

In very many cases a distinct opportunity of contagion from another case of the same sort could be ascertained, although the exact mode of contagion never could be determined. But that in many cases, at least, there is contagion, I am firmly convinced. A very large number of

the cases occurred in boys or girls between fourteen and twenty years of age; after twenty the susceptibility seems to be much less. This wart appears usually as a large and extremely tender callus; the horny layer is thickened and elevated and the central part of this horny mass is perforated by a sort of well, more or less deep. When cut down upon, the base of the lesion is found to consist of small capillary openings from which minute drops of blood are seen to ooze. These are the papillary prolongations and their vessels. A microscopical examination of these lesions reveals a remarkable vacuolation of the rete cells, which is more or less peculiar to this form of wart.

Local traumatism has been considered to be an important factor in the etiology of these warts. It is certainly true that the affection is vastly more frequent at an age when boys and girls are in the habit of being upon their feet a great deal, in playing tennis and other athletic games. It has not been possible for me to convince myself that direct traumatism is a very important factor, certainly not of sufficient value to regard it as the sole agent of causation. To my mind, there is an infective agent present in these lesions as well as in most other varieties of papilloma. The treatment, which I have discussed in the article referred to, is the application of chrysarobin and salicylic acid in collodion or plaster, preceded by thorough curetting. Another mode of treatment that has shown itself valuable of late is freezing with carbon dioxide snow. With this treatment, however, it is best to prepare the way by curetting. A recurrence of the lesions is very apt to occur after excision, unless a very wide margin of sound tissue is included.

THE DIAGNOSTIC IMPORTANCE OF HEMOPTYSIS.*

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THE statement is frequently made that hemoptysis should be considered as due to pulmonary tuberculosis until proved to be due to some other cause. This statement naturally raises the question, What are these other causes? This paper is the result of an investigation into this subject.

The term "hemoptysis" is a general one and includes all forms of blood spitting, whatever their source or cause. The blood may vary in amount from a small spot or thread-like streak in the expectorated material to large amounts of clear blood; it may be clear, frothy or mixed with mucus or sputum. It may come from the nose, mouth, pharynx, larynx, trachea, bronchi or lungs.

When blood is vomited, the term "hematemesis" is applied. Hematemesis has no relation to our subject and does not concern us here except in so far as it is necessary to decide whether the blood be vomited or coughed up. If the patient is seen during the attack, this is easily decided;

* Read at the November meeting of the Hartford County Medical Society.

¹ Verrucæ Plantares: Their Prevalence in Boys and Young Men and Their Pathology.