

## Original-Abhandlungen.

### I.

**Two Newly Discovered Skin Diseases; one originating in the Cat and the other in the Dog. Both Cryptogamic and Infectious; and both capable of being transmitted from the Animal to the Human Body.\*)**

By

**J. H. Salisbury, B. N. S. A. M. M. D.**

(With Tab. V, Fig 1 a—f.)

### I. *Trichosis Felinis.*

This is a skin disease originating in the cat, and is readily transmissible to the human subject. It resembles in appearance *Trichosis furfuraceae*, and, like it, has a cryptogamic cause. It is produced by a species of fungus that develops in fermenting cat's milk. It develops on kittens, while nursing; — first around the lips, nose, face and eyes, and spreads — often — to the head and body. It forms, — with the epidermic cells, — circular patches of thin, rusty scurf on the face, nose, lips and head. The hair soon sickens, curls up, dies, and crumbles away, and the eyes become sore and more or less closed. Often the eyes become entirely shut. After nursing ceases, this growth gradually disappears. It often lasts, — however, — two or three months, and may be longer, after weaning.

The disease is infectious, and is readily transmissible to the human subject, from the kitten, — and then from one person

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\*) An account of these diseases was first published in the American Journal of Medical Sciences for April 1867.

to another. It is contracted more readily by young children, than by grown persons. On infants and young children it spreads rapidly, attacking all parts of the body alike. It spreads rather more rapidly on the hairy, than on other parts of the body. The plants attack the hair follicles, in which they develop luxuriantly, sending off branches abundantly through the epidermic and cuticular layers. The spores and filaments of this mucedinous growth, resemble those of *Trichosis furfuraceae*. They however develop much more rapidly on the human body, — causing the disease to spread in isolated patches to all parts of the surface often in a few days' time.

The patches on the scalp do not differ materially from those of ordinary *Trichosis furfuraceae*, save that the surface is, perhaps, slightly more raised and inflamed, and produce more irritation. On parts of the body not covered with hair, they spread less rapidly, — starting from a single point, or hair follicle and extending in all directions, — forming circular and oval patches of greater or less extent. The patches are slightly elevated above the surrounding surface, red, and covered with scales and little elevations, — marking the position of the hair follicles. The color of the patches is deeper, and the irritation and itching more severe than in ordinary *Trichosis*. In less than a week after the kitten affected with this disease comes in contact with a child, the eruption begins to show itself upon some parts of the surface of the latter, — usually about the hands, arms, and face, — especially if the child has been caressing the kitten. Soon after patches appear on the limbs and body and rapidly spread, producing after an intolerable itching, — which is only partially relieved by rubbing and scratching the patches. This is purely a local disease, — it being contracted alike readily by the healthy and fable.

*Pathology.* The cells of the hair-follicles, and of the epidermic layer between them, are shrunken and shrivelled and the hairs — diminished in size — become brittle, break off and crumble away. The deeper parts of these follicles become enlarged often, and the hairs die, shrink and fall out.

The capillary vessels in the papillary layer of the skin — beneath the diseased surface — become congested and enlarged producing a redening of the skin and a slight elevation of the

diseased surface. The epidermic cells of the follicles and plane surfaces are robbed of their normal nourishment, become diseased and shrivelled, — and finally die and fall off in dry scales. Frequently the irritation is so great, that Pus is formed in little vesicles, — which become broken by scratching.

*Cause.* The disease is purely local and parasitic and has nothing to do with constitutional derangement. The cause is simply a fungus; a mucedinous growth, that developes primarily in the epidermic cells saturated with the fermenting milk of the cat, which, during nursing, becomes smeared over the noses and faces of the kittens. It does not appear to be readily transmissible from the kittens to the old cat. It does not appear; so far as at present known — to be a disease, prevailing to any great extent among cats, save during the period of nursing and from one to three months succeeding. This plant is unlike the species developing in human milk. Neither is it like that which developes in the fermenting milk of the cow.

This fungus finds a fit soil — after it becomes once animalized — in the skin of persons of all ages. The cells of the epidermis, — however, — of the young are more tender and better supplied with nourishment, than those of the mature and old. Hence this disease more readily attacks, and more rapidly spreads over the surface of the former.

In ordinary ringworm — *Trichosis furfuraceae* — the fungoid cause exists mostly in the spore state. The plant does not advance, often, beyond its cell condition. Its growth seems to be confined simply to cell multiplication by pullulation. In this disease the plant cells multiply by pullulation, and these advance to the filamentous stage of growth. These filaments are formed running through among the cells of the epidermic layer.

*Treatment.* This being a disease produced by a cryptogamic cause, — any agent that retards the growth of, or destroys this kind of vegetation, — becomes a more or less useful remedy. Among the remedies of this class may be mentioned, — Tinct. ferri chlorici, — Tr. Jodine; dilute sulphuric acid; dilut. nitric acid, dilute hydrochloric acid; dilute nitromuriatic acid; sulphurous acid; creasote; ointment of the perntrate of mercury; dilute oint of the perntrate of mercury made with codliveroil; carbolic acid wash and ointment; solutions of the soluble sulphites, — strong

solutions of quinia, etc. In short all antifermentative substances; or all those bodies that prevent yeast from exciting fermentation in saccharine and farinaceous materials, — or that tend to prevent animal tissues from undergoing fermentative changes, — become useful agents in diseases caused by parasitic cryptogames. Under ordinary circumstances, this plant, probably will not grow upon the healthy body. It only becomes capable of developing in such situations, after becoming animalized — so to speak — by developing in the milksmeared and saturated epithelial tissues of the cat.

One of the most ready remedies for perfectly eradicating this eruption is the tincture ferri chloridi. This should be painted over the eruption daily till cured. Frequently a single application will do the work. The mineral acids, when used should be sufficiently diluted, so as not to cauterize, or to produce too much irritation.

## II. Trichosis Caninis.

This is a skin disease, affecting dogs. The eruption begins by a small pustul or elevation, covered with epithelial scales; other little pustules appear around this, — and beyond these, others soon arise. In this way the disease gradually extends in all directions from the starting point, — from follicle to follicle, — producing circular and oval patches, elevated above the surrounding healthy surface about one line and covered with dry epithelial scales, rolled and wisted up. The patches extend, and have a shape like those of *Trichosis furfuraceae*, on the human subject. Like the last named disease this is cryptogamic. It is produced by a parasitic mucedinous growth, which develops among the epithelial cells of the epidermis, passing down among the cells of the hair, sweat and fat follicles of the skin, depriving them of nourishment. This causes them to sicken, shrivel and dry up, die, become detached and fall off in dry scales. The cells from which the hair is supplied with food and cell elements, becoming diseased, the hair is imperfectly nourished, shrivels up, dies, and falls from the follicles. This disease extends to all parts of the surface of the dog. Young dogs, while nursing, are more susceptible to it than old ones; yet

no age is exempt. It resembles closely the *Trichosis felinis* of kittens, but appears to differ from it in this particular, to wit — that the fungus appears more luxuriant, large and is more confined to its filamentous stage of development. It attacks less the hair follicles than the *Felinis*, -- and extends more generally to all parts of the epidermic cell surfaces. These diseases may however be both produced by the same specific cause, — the difference arising from the difference in the animal cell surfaces in which they are developed. I have however designated these two growths, to this stage of fruiting will alone settle the question as to the identity or difference of the cause in these two diseases. This part of the investigation is now in progress and I hope to soon be able to say positively whether there is or is not a difference.

This disease is transmissible to the human subject; but so far as investigations have at present gone, it is much less readily communicable than the *Trichosis felinis*. It is much more readily transplanted upon children than upon the mature and old. It attacks all parts of the body alike readily. It usually, however, first attacks the face, hands and arms; other parts of the body being more or less protected by the clothing.

*Pathology.* The cells of the epidermis, — deprived of their normal nourishment, — become shrivelled, dry and smaller in size, — and separate from each other to a greater or less degree. This dying and separation of the cells, causes the diseased surfaces to rise above the surrounding healthy parts, — the dead, dried and curled-up cells, separate and fall off, presenting a braw-like appearance. The cells of the hair follicles are affected in the same way as the plane surfaces; the hairs sicken, become small and shrivelled, die, and fall from their follicles, leaving the surface bare and inflamed.

*Cause.* This is a parasitic fungus, — developing among the cells of the Epidermic layer of the skin. The Mycelium is found developing more abundantly than the spores. The Mycelium sends out branching filaments in all directions forming a close net work in the Epidermic layer. As the fungoid filaments extend in all directions from the starting point; the disease extends.

*Treatment.* This is the same as for *Trichosis felinis*.

*History of Investigations.* Without troubling the reader with the tedious details of the investigation, I will here briefly state that these diseases were first recognized by myself to be peculiar, in the summer of 1864; while treating them in an orphan assylum, whose some thirty small boys were affected with them. During the following year quite a number of cases of the same character were under my care. It was not however till July and August 1866 — that I commenced studying these diseases with the view of tracing them to these true source. I had noticed that in most families where they prevailed, the children were playing with either kittens or young dogs, or both. In every instance I found the little animals with diseased faces. On comparing the mucedinous growths on the diseased animals and children; they were found to be apparantly identieal in the shape of the shores and the arrangement of the filaments among the epidermic cells. My next experiment was to procure a number of diseased kittens, and distribute them to families where there were no cats or dogs and where the children were all free from skin disease. In every instance, in from five to ten days after the children began playing with the diseased kittens, they commenced breaking out with the eruption. The next step was to inoculate myself with the spores of this fungus from the cat. In about three days they began to develop rapidly, and send out filaments in all directions among the epidermic cells, producing a disagreeable itching and forming circular and oval patches of eruption precisely like the disease previously described. The eruption yielded readily to treatment.

I now inoculated myself with the spores from the patches of Eruption on a child, to whom I had given about two weeks before a diseased kitten. The characteristic eruption followed, extending in all directions from the point of inoculation. Many other experiments were performed connected with the disease, both on the cat and dog, a detail of which would here be uninteresting and unnecessary.

*Concluding Remarks.* It is a singular and instructive fact, — that the low types of vegetation that develope in the fermenting animal secretions, — (when apart from the animal body), — do not possess the power of growing, — as a general rule, — upon

or in living animal tissues, where planted in them; but where animal tissues are kept saturated with these secretions for a time and these same growths are allowed to develop in the saturated tissues; these vegetations become, — so to speak, — animalized, — so changed in constitution, that they will thenceforth grow on an animal soil; or they have imparted to them the new power of developing in the living tissues, that are not saturated with these secretions. They now have become infectious, and may be transplanted from one animal or human being to another, having taken on the abnormal property of acting as a cause of infectious parasitic disease. No doubt most, — if not all of the vegetations of infectious diseases, — receive their property to become parasites on abnormal soils, in this way. These vegetations are probably all perfectly innocuous and harmless, when grown in their normal soils; only becoming causes of disease, when the proper rules of cleanliness and other principles of hygiene are neglected.

The mucedinous and algoid growths that cause fermentation in farinaceous, saccharine and some other vegetable matters, when allowed to vegetate in living animal tissues, saturated with these vegetable products, — also to a certain extent become animalized or so changed in constitution, that they to a limited degree, — and under the proper conditions, are thence forth able to develop on living animal tissues, — producing disease, — and may be transplanted from one human being to another, — providing such persons are living largely upon the vegetable products, — which are the normal soil for these vegetations. Favus is a disease of this kind. Skin eruptions I have often noticed in bakers and millers, — which are produced by the *Cryptococcus Cerevisiae* and *Puccinia*. I have also occasionally found the whole body of vegetable feeders completely covered with an ugly looking scabby eruption produced by yeast vegetation.

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### Explanation of Figures Tab. V, No. I.

- a. The spores of *Trichosis felinis* in the epithelial tissue of the noses of kittens.
  - b. The spores of *Trichosis felinis* in the Epidermis of children affected with the disease.
  - c. The mycelium of *Trichosis felinis* in the epithelial tissue of the noses of kittens.
  - d. The mycelium of *Trichosis felinis* in the Epidermis of children affected with the disease.
  - f. The spores of *Trichosis caninis* in the epithelial tissue of dogs. They have the same general appearance where growing in the skin of the human body.
  - e. The mycelium of *Trichosis caninis*, as it appears running among the Epidermic Cells on Dogs. It presents a similar appearance where growing among the human Epidermic Cells.
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Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: [Zeitschrift für Parasitenkunde](#)

Jahr/Year: 1875

Band/Volume: [4\\_1875](#)

Autor(en)/Author(s): Salisbury J. H.

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