

(for which the lids had to be held up) showed the discs were clear and healthy, but the veins rather full. Before leaving, the patient passed about an ounce of urine, which was slightly tinged with bile, clear when passed, but speedily became turbid; highly acid; contained no albumen. Microscopically it showed a large quantity of uric acid crystals, amorphous urates, and some oval colourless plates. No blood or casts.

15th.—11 A.M.: After I saw him yesterday afternoon he remained in much the same condition of stupor, becoming delirious at night. At 4 this morning he seemed to sleep quietly, and on awaking at 8 said he felt better. His aspect this morning is distinctly brighter, but tendency to stupor still marked. He is not so dusky about the cheeks, and the veins of the eyes are less full. His skin has a more distinct jaundiced hue. He still complains of pain over the liver, increased by pressure. Has no other pain, but says his head feels "funny." Appetite bad, declines taking any food. Pulse 72, regular, good strength. Temperature 102° 4'. His bowels have been open twice since yesterday. Motions liquid, tarry. Has also passed six ounces of urine of the same character as before.

16th.—3 P.M.: The patient passed a good night, and had no delirium. This afternoon he is much brighter, and talks with his friends. Pupils widely dilated. Bowels open once, motion still tarry. Has passed nearly a pint of urine. He still has slight tenderness over the liver, but no other pain. Says he is not hungry, but very thirsty. Tongue cleaning; jaundice about the same as yesterday. Temperature 100° 2'; pulse 48, regular, good.

18th.—3 P.M.: Patient has been going on well since last note. Tongue cleaner. Appetite still bad. Jaundice diminishing. Motions normal. No tenderness over liver. Temperature 98° 4'; pulse 44, regular, good. The patient went on well after this. He sat up for an hour on the 19th, but felt very shaky. On the 24th he went out of doors and quickly regained appetite and strength.

Remarks.—I think the above notes on a case of Weil's disease worth publishing, as so few cases have thus far been recorded in this country. The points of interest in the case are: 1. The early onset of severe nervous symptoms, the patient becoming *drowsy* within an hour or two of the initial rigor, and delirious within twenty-four hours. 2. Although no albumen, blood, or casts were detected in the urine, there can be no doubt, from the fact that only one or two ounces of urine were secreted in forty-eight hours, that the kidneys were affected by the disease. 3. The rapid recovery of the patient, which was very probably *not* influenced by the treatment pursued. In all probability the symptoms were due to some toxic (perhaps specific) agent in the blood; but whether introduced by food, water, or air I am unable to say. It is very probable though that the poison was absorbed during his absence from home. I may add, however, that my patient is not aware that any of his camp comrades suffered in a similar way.

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HYDRONAPHTHOL AS A SPECIFIC IN THE TREATMENT OF TINEA TONSURANS.

BY MORGAN DOCKRELL, [M.A., M.D. DUB.

NOTWITHSTANDING the strides made of late years in the treatment of skin affections as the result of the introduction of the medicated "Pflastermulle" and the jelly methods, there is still urgent need for the better treatment of tinea tonsurans. We require some remedy based, not on the over sanguine observation of the introducer, but on a sure pathological footing, which will answer practically in the hands of the many, and not, as at present with the various remedies, in those only of the few. Bearing this in view, I am prompted to bring forward a treatment that in my hands has proved successful, and which, I believe, will be the means of removing the opprobrium attaching to the prolonged attempts to cure the disease, baffling, as it often has hitherto, every medicament, till after years of isolation and other discomfort natural development in the patient has come to the rescue. And if other reason is necessary, it is in the following statement made by Mr. Jonathan Hutchinson,¹ that his present creed as to alopecia areata is that it is usually a sequela of ringworm.

In hydronaphthol we have found a remedy the proper use of which will prove a power in combating the ravages of the trichophyton fungus. It is a secondary compound of beta naphthol, and was obtained from it by Justus Wolf of New York by a molecule of hydroxide having displaced an equivalent of hydrogen in the process. It has a slight aromatic taste, is almost odourless, sparingly soluble in water, but easily dissolved in alcohol, ether, chloroform, and glycerine; it is non-poisonous, non-irritant, non-corrosive, according to Mason precipitating albumen and gelatine in their neutral or acidulated solution, on which function is based its antiseptic action, and by it the contents of the protoplasm are caused to congeal, and in a super-saturated solution their destruction is complete; hence its germicidal and prophylactic properties. Fifteen grains in a single dose have been taken internally without bad effect. In the multiplicity of recommended treatments for tinea tonsurans we have no unanimity in many important particulars, which must materially influence the duration of the disease and the propagation of infection. We have in fact as much difference in opinion as to whether epilation should be employed, whether the head ought to be shaved or the hair cut short, as there was in the nomenclature after Willan first described it as "*porrigo scutulata*," and we do not seem to have got much farther than Willan had in 1810, when he stated that the disease "*was hard to cure and very contagious*."

Amid the chaos which exists as to what the trichophyton really is, we have a paper by Dr. Leslie Roberts,² in which, amongst other valuable matter, he draws attention to the development of organs of fructification, a fact that supports Duclaux's experiments, and finally settles one point strongly urged³—namely, that in all the experiments hitherto referred to, what was obtained was at most the germination of conidia, never their fructification. From the character of the fructification, and that the ampullæ may be of the nature of asci, it is possible that some further reason may develop to classify the trichophyton with the ascomycetes. And it is of interest to note that this order includes the fungus which sets up the muscardine disease in silkworms—namely, the *botrytis bassiana*, and also the *cordyceps militaris* fungus, which destroys the *gastropacha pini*.

In summing up his results Dr. Roberts explains the anomaly, the difference of the fungus in the skin, and in the hair and its follicle, by stating that "it is a fungus able to vary its form and activity according to the physical and chemical properties of the soil in which it grows; when this soil is solid, and of a nitrogenous composition, nothing more than a thallus or mycelial trichophyton is developed, incapable of growing in cutaneous tissues. When, however, a thin medium, especially one of a saccharine constitution, is selected, we cultivate the fungus into a fine septate thallus, with special organs of fructification, capable of growing both in human and animal skin. In the epithelium of the skin the fungus only vegetates, but does not develop, propagating itself by swelling, constriction, and finally division of the filaments; but in the hair and its follicle the life of the fungus is perpetuated, probably by a yeast-like division of these spores, formed primitively by the transverse division of the mycelial filaments." This difference in growth doubtless explains better why body ringworm is cured so very rapidly.

Hitherto the failure in the treatment of tinea tonsurans has been due, in the first place, to allowing oxygen too free access to the fungus, acting, in fact, as if we did not know that it is necessary, for a mould fungus to flourish, that it should be abundantly supplied with oxygen, and kept at a temperature below the normal state of the body; secondly, we have not adopted the best means of securing penetration of the remedies employed, and there has been gross neglect in preventing the spread of the disease by using applications which cast a slur on antiseptics; and, lastly, we want a potent germicide which does not set up extensive dermatitis. And in finding such a germicide, it is well to remember the fact, laid down, I think, by Koch, that many micro-organisms have two states of existence—an adult form, where the organism is growing rapidly and is very easily killed, and a spore form, which rests and provides for its future existence, being very difficult to kill. So that when a (1 in 20) preparation of carbolic oil is used with a view of perfectly carbolicising the spores, and so preventing contamination of the atmosphere and further sowing on the patient's head, we find

² British Journal of Dermatology, No. 11, vol. i.: Observations on the Artificial Cultivation of Ringworm Fungus.

³ Ziegler's Pathological Anatomy, Part I., p. 183

¹ Archives of Surgery, vol. i., No. 2.

that the spores of the bacillus anthracis, the admitted standard test of a germicide, after exposure for one hundred and ten days to such a strength of carbolic oil are not in the least affected; we can hardly wonder at the want of success of the many treatments, based, as most of them are, on similar fallacies. Thus it is necessary to have a germicide that will act in no uncertain way, that will destroy the spores of the test bacillus with more rapidity and certainty than any other preparation, without producing deleterious local or constitutional results. Then, and not till then, may we assume the self-satisfied lethargy which has surrounded and enveloped the profession all over the world as to the treatment of ringworm; easing its conscience, as it were, from time to time by sending forth some old remedy in new guise, heedless of which, however, the trichophyton still flourishes.

In a pamphlet recently published Dr. Edgington⁴ gives the results of some experiments made to prove the value of carbolic acid, corrosive sublimate, and hydronaphthol as to the respective germicide and antiseptic properties of each. While strongly recommending the reading of the pamphlet, it will only be necessary for my purpose to cull those experiments immediately bearing on hydronaphthol and corrosive sublimate. And the first experiment I would quote is that made to test the relative action of each on the spores of the bacillus anthracis and bacillus subtilis. In each case the strength of the antiseptic solution used was 1 in 1000; and it was found that in the treatment of the spores of the bacillus subtilis the length of exposure necessary to destroy them was in corrosive sublimate thirty minutes, and in hydronaphthol only ten minutes; in the bacillus anthracis a ten-minutes' exposure was necessary for hydronaphthol, while corrosive sublimate required fifteen minutes to destroy the spores. From this we may fairly conclude that hydronaphthol as a germicide is superior to corrosive sublimate, and from being non-poisonous and non-irritant it affords an ideal medicament for tinea tonsurans. As to the best means of getting the remedy constantly applied, the plasters of hydronaphthol, 10 and 20 per cent.,⁵ give excellent results, limiting the propagation of the disease and causing the more rapid penetration of the germicide than any other means we can employ. The plasters also help us in starving the fungus, and to perfect this we need to hermetically seal the plaster round in the way I am about to describe. The method of treatment I have found successful is as follows: Have the head completely shaved, leaving the usual fringe all round; then wash with a 5 per cent. soap of hydronaphthol, using water as hot as can be borne. After drying the scalp, apply over the affected area a 10 per cent. plaster of hydronaphthol in narrow strips, letting each strip overlap its fellow, taking care that the plaster extends quite half an inch beyond the margin of the diseased patch. Outside the margin of the plaster paint a layer of a 10 per cent. hydronaphthol jelly (when melted) so as to exclude all air. At the end of four days remove the plaster, when the diseased stumps will be found adhering to it. Repeat all the previous process, applying for one week a 20 per cent. plaster. Repeat the process, this time applying the 10 per cent. plaster for ten days, when on removal the disease will be found to be cured. During the plaster treatment, apply a 5 per cent. ointment to the unaffected portions of the head night and morning. Care should be taken that all articles brought in contact with the head before treatment be destroyed, otherwise reinfection will take place, and the treatment be brought into discredit.

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ON INGUINAL COLOTOMY FOR MALIGNANT DISEASE OF THE RECTUM.

By F. A. PURCELL, M.D., M.Ch.

I HEREWITH beg to describe the operation of inguinal colotomy as now performed by me, and record a few cases. The line of incision through the skin in the left side is made in a semilunar crescentic form, taking the anterior superior spine of the ilium as the centre, and about an inch and a half to its inner side, or two fingers' breadth and about three inches long, the convex curve directed outwards

and downwards. The fascia and muscles down to the peritoneum from the ends of the curve are divided in a straight line, resembling the string of a bow, all bleeding vessels being secured. The peritoneum is then opened. The descending colon is to be found immediately beneath, recognised by its flat longitudinal bands; it may be overlapped by other intestine, which must be pushed aside. The gut brought out is the lower part of the descending colon and upper end of the sigmoid flexure, as much as gentle traction and coaxing will admit, the transparent iliac mesocolon is examined, and, at a point as far down the gut as possible, is transfixed by a pair of forceps carrying a small-sized piece of solid round rubber ligature. This is tied around the gut in a single knot and clamped with a pair of torsion forceps, another rubber ligature is passed round the gut as high up as possible, and fastened. The gut is thus isolated, and packed around with wet hot pads of antiseptic cotton-wool. These are placed to protect the peritoneal cavity from blood or faecal matter on cutting the gut. The gut is now cut right across, as also about from half an inch to an inch of the mesocolon near the upper angle of the wound. The operator lays hold of the distal end by the fingers of his left hand, and his assistant holds the proximal end; all faecal discharge is cleansed, or washed away with a syringe if necessary, and wet wool pads applied. Free bleeding takes place; all points are secured, and tied with fine catgut ligatures. The parts being dry and clean, the distal end is invaginated as far as possible, the end closed by bringing the serous coats together by a fine silk continuous suture with a fine needle. The bowel is then cleansed, the rubber ligature removed, and it is returned into the pelvic cavity. Before dealing with the proximal end, I have found it more convenient to pass all my sutures ready to close up the wound. These for the time remain loose. Three silkworm gut sutures are sufficient to close the parietes below the gut, and one at each end of the gut is made to transfix the parietes, peritoneum, and serous coat of the bowel, the bowel being kept well up in the upper angle of the wound. A suture is passed at each side through one side of the parietes and the serous coat of the bowel. All is now nicely cleansed, and the second rubber ligature unfastened and removed; the sutures are made taut and tied, no fluid whatever is allowed to obtain entrance into the peritoneal cavity, and if it should happen, it must be swabbed out clean. A pad of salicylic wool is placed over the parts and confined by means of a many-tailed flannel bandage; this completes the operation, which proves not tedious or long, and most clean.

I may here remark that the semilunar incision through the skin and the cutting the muscles in a straight line form a valvular kind of flap downwards to somewhat cover the artificial anus, and form an artificial sphincter, which has proved satisfactory. A perfect artificial anus is formed, with no chance of a faecal fistula taking place. No proidentia of the bowel or mucous membrane has happened in any of my cases; the lower rectum has generally emptied itself soon after the operation, and it is from time to time douched out and cleansed. Very little rise of temperature occurs, and the bowels are made to act about the fourth day by a castor-oil draught. All sutures are removed on the sixth day; some may possibly be found already to have ulcerated through one side. Perfect union is found to have taken place. Any pain may be relieved by passing per anum a morphia suppository when required.

CASE 1.—Martha M—, aged forty-five, a coloured woman, from Earl-street, Edgware-road, was admitted into the Cancer Hospital under my care on Dec. 17th, 1888, suffering from epithelioma of the rectum. There is no history of cancer in her family. She has been a married woman three years; has had no children, and no miscarriages. She was regular until a short time before marriage, but since then the menses have entirely ceased. She states that she has had to do a great deal of sitting for long periods at a time at her business. She has not previously suffered from constipation; she has been suffering about a year and eight months. She first noticed a discharge of blood and slime per rectum, and felt a certain amount of pain; she has been losing flesh, and the discharge from the rectum has continued. On examination, extensive disease was found in the rectum, extending too high for excision; no inguinal glands were felt. She was recommended inguinal colotomy, but would not consent, and left the hospital on Dec. 29th, 1888. She came back on March 1st, 1889, and

⁴ The Practical Value of Antiseptic Agents.

⁵ Prepared by Seabury and Johnson, 46, Jewin-street.