

toes from entering, and still allow enough ventilation for the water. Surface drainage should be abolished wherever possible. Ditches and open drains should be cleaned occasionally and thoroughly flushed. Pools or ponds that cannot be drained should be filled in with sand or other material, or stocked with fish, or treated once a week with petroleum.

ANOPHELINE OR MALARIAL BEARING MOSQUITO.

This insect breeds in water in puddles, in hollows made by the hoofs of cattle, in pools, ditches, sluggish streams and especially in swamps. In order to prevent such accumulations of water, make superficial drains through swamp lands, or eliminate the water by filling in with sand or earth. Remove the grass and weeds from the edges of pools, streams and ditches. See that irrigation is conducted under restrictions. Pour oil over surface of water where it is practical; this forms a thin film over the surface which kills the larvæ and pupæ by preventing them from breathing. Renew the application once a week. It is doubtful whether the use of oil is successful in the treatment of swamp lands, and it is better to have these filled in or drained.

LARVICIDES.

The New Jersey Mosquito Commission have experimented with various larvicides, with the following results:

Crude Petroleum.—This may be used to kill larvæ as well as adults that attempt to lay eggs. It is useful on salt and fresh water but does not spread rapidly.

Kerosene.—This has the same effect as crude petroleum, but spreads better.

Fuel Oil.—This is like kerosene, but cheaper, somewhat heavier, and more lasting. It spreads equally well on salt or fresh water. It is the most effective mineral oil.

Chloronaphtholeum.—This is a creosol preparation, mixes readily with fresh water and kills mosquito larvæ in proportions of 1 to 1,000. Good for gutters and lot pools. Useless in salt water.

Phinotas Oil.—This is a creosol combination. It is the most effective larvicide known. Kills everything from larvæ to fish. Especially useful in sewer basins, gutters, cesspools, etc. Does not work with salt water.

THE ELEMENTS OF DIAGNOSIS OF CUTANEOUS SYPHILIS.*

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The difficulties in the diagnosis of syphilis have been admitted by the most skillful diagnosticians. The reason for this is that the cutaneous manifestations of syphilis may be imitated by quite a number of other less obnoxious skin diseases and that syphilis may often appear in forms which simulate the lesions of other dermatoses. As Dr. White says, the skin, by its comparatively simple structure, is incapable of displaying a large variety of pathologic manifestations, and the limited number of skin lesions are therefore reappearing in a large number of morbid conditions.

No less an authority than Kaposi says:

The syphilids do not offer any other morphologic prop-

erties than the non-syphilitic dermatoses, as they all appear in macules, papules, pustules with secondary formation of scales and crusts. Their unquestioned specific clinical features, by which they can be distinguished from all other non-syphilitic dermatoses, and which impress us as peculiar typical syphilitic symptoms, are therefore not based on their morphologic properties, neither do they depend, as it is often taught, on certain physical properties, as the sepia (copper) brown color, their predominant localization on the flexor surfaces and around the orifices of the body, their symmetrical distribution, circinate appearance, formation of groups, their polymorphism, excessive formation of crusts and scales and absence of itching. For all these external features are encountered also in the non-syphilitic eruptions.

The specific properties of the syphilids are said to be the sum total of the phenomena which compose the pathologic-anatomic course of the individual lesion of which we distinguish three cardinal anatomic features:

1. The products of cutaneous syphilis are all equally composed of a uniform cellular infiltration of the papillary body and the corium and vary only in size.

2. The cells do not show a tendency to form a lasting organization into connective tissue, but undergo retrogression and complete involution.

3. The growth and consummation of the infiltrate follow in certain order and direction. They spread and disappear centrifugally.

But the peculiar specific clinical characteristics of the lesions of syphilis, if determined by these pathologic-anatomic features, are not pathognomonic of syphilis exclusively; they are the clinical expression of cellular infiltration of the papillary body in general and are everywhere met where there is such infiltration.

1. The dense sharply defined cellular infiltration of the corium and papillary layer which is manifested clinically by a papular elevation is not the exclusive feature of secondary syphilis. It is encountered in a large number of other skin diseases, such as chronic eczema, psoriasis, lichen planus, herpes tonsurans, pityriasis rubra, lupus erythematosus, etc.

2. They all show the essential feature that they do not form lasting organizations. They are distinguished by these very same features, which permit a *restitutio ad integrum* from the granulomata, in which proliferating cells undergo further development and formation of new tissue (tuberculosis, leprosy, syphilitic gummata, etc.).

3. The centrifugal spread of the infiltrate is not the expression of the pathologic process, but is determined by the anatomic structure of the skin. It is not the morphologic expression of a specific disease, but is encountered in all morbid processes in the vascular cutis, as, for instance, the different forms of erythema, psoriasis, scleroderma, pityriasis rubra, etc. All diseases, the pathologic processes of which are confined to the papillary layer or around the blood vessels, are marked by a circular spread, due to the fact that the blood vessels perforate the tissue in all directions which permit a free, that is, a circular spread of the pathologic process.

If these three cardinal symptoms are not characteristic for the pathologic process of syphilis, neither can the clinical phenomena derived from them be regarded as peculiar to the syphilitic infiltrate only. In fact, all the characteristic symptoms which have been ascribed to the papules of syphilis can be applied as well to the papules of lichen planus.

If we analyze the characteristic clinical features of the syphilids, we see that none of them is conditioned by the specific process, and that they all have their

* Read before the Chicago Medical Society.

origin in external circumstances which may vary in individual cases.

The general characteristics of the syphilids which we are taught render their recognition more certain are color, resistancy, surface, localization, central depression and scaling, polymorphism and the chronological sequence and course of eruptions.

COLOR.

The color is not due simply to local hyperemia since it does not disappear on pressure. It is undoubtedly a deposit of some coloring matter in the tissues; but what this substance is and how it is deposited there, is still a matter of discussion. Kaposi says that the specific diathesis may have some part in the production of discoloration. Cornil says that the color is due to extravasation of red blood corpuscles. Neuman intimates that the discoloration is due to pigmented round cells. Kreibich tried to reproduce this color artificially and has found that the color is composed of equal parts of red and brown with the addition to this composition of a trace of black which gives to the resulting color a sombre hue (color tristis). Red is the color of inflammation produced by arterial congestion. The more the blood vessels are dilated and filled (in the beginning of the inflammation) the more will the red predominate. In this state, that is in recent eruptions, we see the roseola syphilitica resembling the roseola vulgaris; brown is the color of the cellular infiltrate coming from the deeper parts; black is the color of blood pigment. It is easy to comprehend that the resulting color can not be constant because its components are subject to variation in the different stages of the disease, or under different circumstances. The red is predominant in recent eruptions, as also in all lesions which contain a permanent cause of irritation, as for instance in the pustular syphilids; or in cases in which the infiltrate is less marked, as in the small papular syphilids. In anemic persons, in whom the hyperemia is less marked, we find the color more brown; on the lower extremity, the lesions are colored bluish-red, due to venous stagnation. These conditions being variable, we cannot assign to the color any absolute value as an element of diagnosis.

RESISTANCY.

This, also, is not a constant symptom. It changes with the degree of infiltration diffused between the meshes of the connective tissue. The flat papule with less infiltration feels less hard to the touch than the thick, round papule.

SURFACE.

This is mostly smooth and shiny, due to stretching of the epidermis, and is naturally not an exclusive character of the syphilids but is met in every cellular infiltration of the cutis which is covered by an unaltered epidermis, as for instance, in lichen planus.

LOCALIZATION AND DISTRIBUTION.

The earlier syphilids are symmetrical and with lesions profusely distributed, but this symptom is found also in other disease in which the pathologic process is localized around the blood vessels and, perhaps, carried by them, as in leprosy, mycosis fungoides and other granulomata. It is true that the eruption has certain prevailing localities, as the proximal portions of the extremities, the chest, forehead and some parts of the face (especially in seborrheics). This peculiarity, however, is conditioned, not by the specific process, but by external circumstances which produce for the process a

locus minoris resistentiæ; 1, on places where the skin is more pressed to the bones and therefore more stretched, and 2, on places which, by their mobility, are more exposed to injuries of a mechanical, physical or chemical nature, as the mucous patches on the tonsils—due to the irritation by the act of swallowing, or the condylomata around the anal orifice—due to irritation by excretions.

POLYMORPHISM.

The multiformity of lesions and their co-existence in the various stages of development is often of value in the diagnosis of syphilis. Polymorphism, however, is not constantly present, and besides we may see it in non-syphilitic dermatoses. The difficult cases are just the ones in which there are only a few perhaps uniform efflorescences and in which it is necessary to determine whether or not it is syphilis.

This arbitrary value of the diagnostic elements of syphilis may be the reason why the importance of two other elements is usually emphasized in determining the diagnosis. These are: (1) The ensemble, or the general impression of the whole complex of existing symptoms; (2) the chronological order in the development of the individual symptoms and the intervals between their appearance.

These two conditions, the ensemble of suspicious symptoms of which each by itself may not suffice for a correct diagnosis, and the chronological order of their appearance in intervals corresponding with the classical periods of syphilis, have always been regarded as of the greatest significance and as the most reliable elements of diagnosis in cases of doubtful cutaneous eruptions. By force of habit and power of logic, we are ready to accept the presence of striking symptoms as unmistakable proof of the existence of a disease in which alone these symptoms prevail, and do not hesitate to make a diagnosis of syphilis in cases in which, after an exposure to possible venereal infection, a primary lesion on the genitals is followed by swelling of the inguinal glands and where, in due time after, a cutaneous eruption appears which may be interpreted as some one of the secondary lesions of syphilis.

The object of this paper is to illustrate the possibility of coincidental existence of these conditions in non-specific cutaneous diseases by cases which have come under my observation, and in which the different manifestations appeared in intervals corresponding to the classic periods of syphilitic incubation.

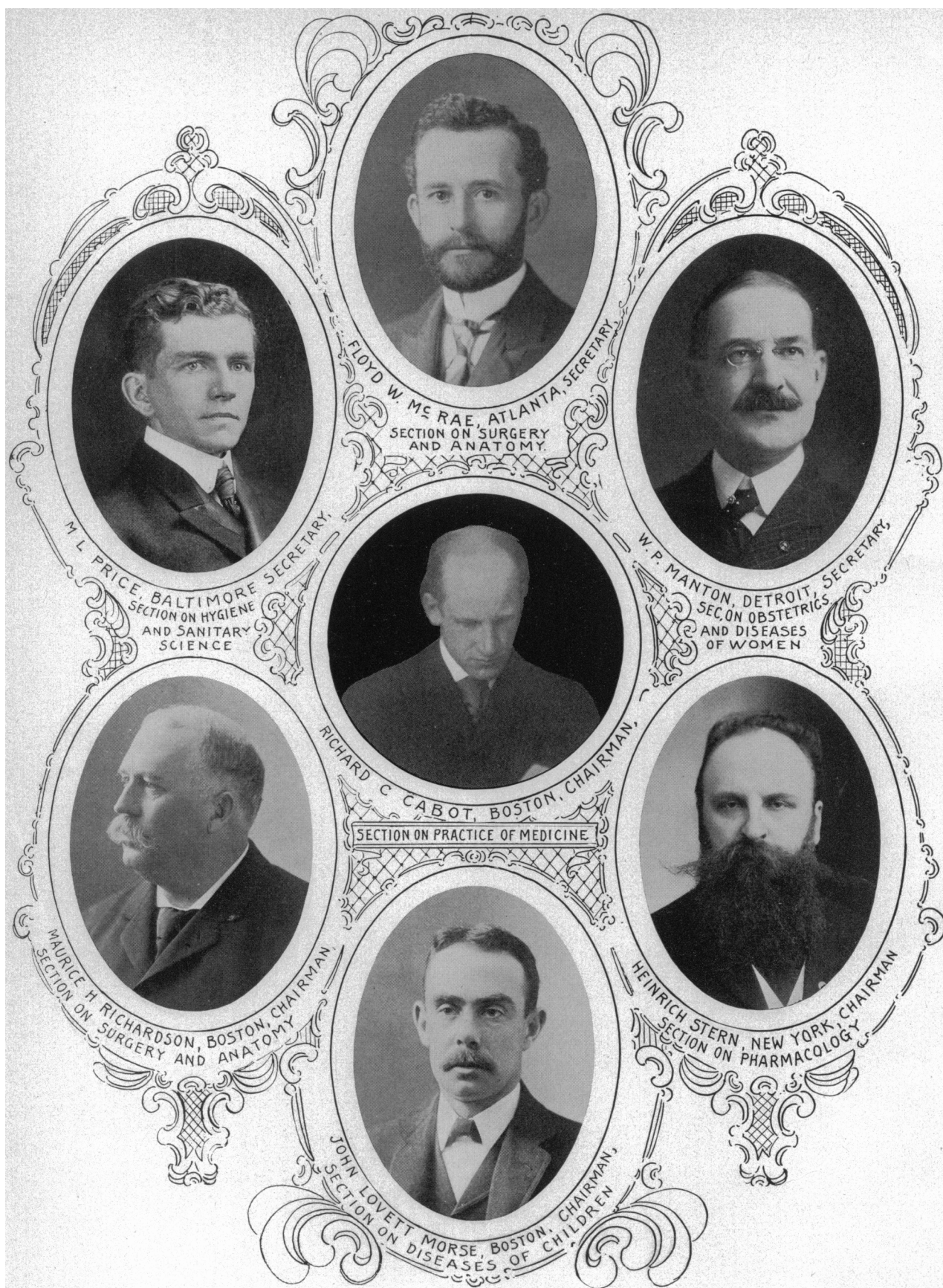
CASE 1.—A young man, aged 25, was referred to me by Dr. P. Sisman, with the following note:

"Patient has a sore on the ventral aspect of his penis and enlarged, painful inguinal glands on the right side. The history is as follows: He had sexual intercourse on October 28. About a week or ten days later, he began to feel an itching of the penis, and soon after several small vesicles appeared on its dorsal surface. About November 9, he noticed a pustule on the ventral aspect of the penis which has since enlarged and developed into the present sore. About the first of this month (December) he began to feel pain in the groin, the glands soon became swollen, about the tenth of this month an eruption appeared on abdomen, navel, axillæ, chest, and in the lumbar region. The itching has continued during that time. I have advised the patient to try to bring the woman in the case for the purpose of confrontation, but he did not succeed in doing so."

Examination.—On the ventral side of the penis there was a "pustulo-crustaceous" sore about one-half inch in diameter, which, on removal of crusts, showed deep edges and a red granulating somewhat indurated base. On the prepuce, and near the root of the penis, there were several large papules. Around the umbilicus there were a few larger elevations cov-



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SOME OF THE SECTION OFFICERS

ered with characteristic scabies crusts, and there were similar lesions on the abdomen and near the axillæ. On the trunk and extremities there were red exudative papules. The inguinal glands were enlarged, somewhat indurated, and sensitive.

The diagnosis of scabies is here apparent, but the history of the case, the induration of what could be regarded as the primary sclerosis and the chronological order in appearance of the adenopathy and the cutaneous eruption, justified the physician in thinking of the possibility of syphilis, either pure, for syphilitic eruptions especially of the genitals may sometimes be accompanied by itching, or of syphilis in combination with scabies. Such combinations have been reported to alter considerably the usual symptoms of both.¹

I could exclude syphilis in this case for the reason that the elementary lesion of syphilis was absent; the papules were all exudative and not infiltrating, while the element of scabies was present. This element, as I have observed, is the characteristic crust formed over the patches of scabies. The patches, being exudative, prevent a perfect drying up of the crust and the crusts of scabies are, therefore, always mixed with products of acute exudation. They are made up of dried material interspersed with glistening droplets of exuded serum.

CASE 2.—A druggist, aged 22, contracted a gonorrhea, complicated, according to his diagnosis, with a soft ulcer of the glans, some eight weeks previously. He treated himself with injections and by cauterization of the sore. Three weeks later, there was a painful swelling of the inguinal glands, which were reduced in size and sensitiveness by pressure bandages applied by a physician. This was followed by the appearance of red scaly papules over chest and thighs.

Examination.—Chronic posterior gonorrhea. On the glans there was a slight infiltration of brownish red color on place of previous sore. The inguinal glands were moderately enlarged. On the chest, buttocks and thighs there were disseminated solitary papules varying from a pea to a dime in size, dry, covered with thin, muddy, gray scales accumulated over the center of papules leaving the periphery smooth. The eruption was not accompanied by itching.

The difficulties which may confront the diagnostician in differentiating the lenticular papular syphilid from an atypical form of psoriasis (seborrhoic dermatitis) are well known. The authorities lay stress on the difference in the scales of these two lesions. The scales of syphilis are smaller, thicker, less abundant, of a dirty gray color and often do not entirely cover the lesion. The scales in psoriasis are larger and more lustrous, of a silvery or whitish appearance, distinctly imbricated and more freely produced and shed.² Other text-books state that the scales of syphilis are developed over the center of the lesion and rarely extend to the periphery.³

I have tried to study the scale formation on the papules of syphilis in quite a large number of cases which I had the opportunity to observe in the last few years. Scales are not present in all papules, and the very recent ones do not show any scaling. Later, scales begin to accumulate at the center, but may also cover the whole surface and when they become loose adhere only to the periphery. From my observations I am inclined to believe that the adhesion of the scales to the periphery constitutes a peculiarity of syphilis.

In trying to remove the syphilitic scale by scratching or even slight friction, the center may be entirely denuded while at the periphery a ring of scales remain with the detached side towards the center. I believe

this phenomenon can be explained by the difference in the formation of both. The scaling in syphilis is produced by the mechanical detachment of the corneous layer due to the cellular infiltration of the cutis, while the scaling in psoriasis is due to epithelial proliferation and excessive cornification of the epidermis; both of these processes are more pronounced in the center. For this reason, the scales of psoriasis are here accumulated more and more closely attached, while in syphilis, on the contrary, they are more easily detached in the center on account of the greater mechanical pressure from beneath. This difference in the scales enabled me to make a diagnosis of psoriasis in this case. A few x-ray exposures brought about the disappearance of the eruption.

CASE 3.—I saw this patient through the courtesy of Dr. N. Remmen.

History.—The patient, a widower, aged 47, noticed a sore on the prepuce some seven weeks previously. Two weeks later, the inguinal glands became noticeably enlarged. Two weeks ago, that is, five weeks after the appearance of the sore, and three weeks after the adenopathy, an eruption appeared on his body.

Examination.—The patient is a robust, stout man; there was no trace of the primary sore. The inguinal glands were somewhat indurated, though not much enlarged, with some tenderness on pressure. The lesions were dark brown, somewhat elevated, slightly scaling, and in size from pinhead to pea. Parts affected: face, over eyebrows and bearded region; back of left hand and elbow, right arm, elbow, and under arm. There were scattered lesions of larger size (about a dime) over the shoulders, buttocks and thighs. Between the shoulders there was a characteristic irregularly outlined area, size 3x1.3 inch, of eczema seborrhoicum. There were scattered papules also on the chest and abdomen. On the glans penis, there were a few papules, and on the prepuce near the sulcus there was a ring of shiny papular elevations. The color was somewhat lighter on the larger lesions than on the small papules, and capillary bleeding could be provoked in some. The patient never had psoriasis before nor had any one in his family.

Treatment.—A reducing ointment (acid pyrogall. comp.) caused the disappearance of the eruptions in two weeks.

CASE 4.—I saw this patient in consultation with Dr. I. M. Lang.

History.—The patient, aged 38, had acquired an ulcer of the glans eight weeks previously. Slight induration of the base made the differential diagnosis uncertain. On application of an antiseptic dusting powder, the ulcer healed in two weeks. Six weeks later, a maculo-papular eruption which soon became intermingled with pustular lesions appeared, first on arms and backs of hands, and then on trunk and face. The great resemblance of the lesion to syphilodermata induced the physician to invite consultation.

Examination.—On the face there were large macular lesions of bluish red color, varying in size from 1/4 to 1/3 inch in diameter, and resembling very much a roseola syphilitica. On the chest, in addition to macules of the same character, there were papules, mostly oval in form, dark red in color, size of split pea and larger, some depressed in center, and the surface smooth, without scales. On the back there were maculo-papular lesions of the same character; in the interscapular region there were longitudinal patches of pointed small papules with vesiculo-pustule in center, resembling acne syphilitica, some of them covered with dry crusts. The arms and especially the backs of the hands were covered with oval, dusky red papules. The lower extremities and genital regions (scrotum) showed the same papular lesions. There was no adenopathy, neither were there mucous patches in the oral cavity. The lesions did not itch.

The negative features of the disease rather than the positive, the absence of the lesions on the flexor surface of arms and palms and the absence of a typical

1. Sibut. Jour. des Malad. Cut. et. Syph., 1898.

2. Prince A. Morrow's System.

3. Kaposi, Shoemaker.

syphilitic papule, induced me to diagnose the case as erythema multiforme.

The similarity of erythema multiforme to syphilis may be still more striking, as is illustrated by the following case:

CASE 5.—A florist, aged 24 entered the county hospital on January 6, 1904, with the following history:

History.—Two months previously, a sore the size of thumb nail appeared on the side of the prepuce, coming on 10 days after exposure to venereal infection. He was told by a physician that it was syphilitic and began taking mercury. Four days later, an enlargement of the inguinal glands appeared, followed by the appearance of red spots on the back of the neck. These subsequently spread rapidly over the body. He became hoarse, his mouth became sore, and the red spots over his body began to blister.

Examination.—The patient is a medium-sized, well-developed man. The skin almost all over the body was covered with a macular and papular eruption occupying large surfaces of face, neck, trunk and extremities. The upper part of the body was affected more than the lower. On the face, there were papules varying in size from a pea to a dime, brownish red, not much elevated and more macular than papular. On the external corners of the eye the papules were umbilicated and covered with light crusts. The neck presented large patches 1x1½ inches, each having darker color in center with detachment of epidermis above the spots. The chest showed still larger lesions, size from half-dollar to a dollar, running together in large patches presenting a variety of colors, the center was dark and livid, and covered with either a small vesicle or a thin crust. Around them there was a zone of vermilion color surrounded by a slight pink which gradually ran into healthy skin; each patch was raised about 1/16 inch above the healthy skin. The arms were affected more on the extensor surfaces, having similar lesions to those just described. The papules were smaller on the back of the hand; on the palms, the macules were the size of a pea, brownish in color and glistening from beneath the epidermis; the fingers were diffusely livid red. Here and there were a few vesicles. On the legs there were only a few disseminated papules, but the feet, especially the soles, were diffusely red and swollen, making it impossible for the patient to walk. The scrotum and penis were red and macerated. The penis showed much purulent secretion. The ears were livid and diffusely swollen. The lips were dry, and presented some ulcerations and fissures on the corners. In the oral cavity there were congestion and edema of the mucous membrane, plaques on the tonsils, and foul breath. There was generalized adenopathy.

In this case, in spite of the striking history, the existence of many symptoms of syphilis, the stomatitis, adenopathy, etc., I excluded syphilis because the typical element of secondary syphilis was absent and made a diagnosis of erythema multiforme because the symptoms of this disease, the main element of which is an erythema of the skin combined with an exudative process in the cutis, were marked.

The papule of erythema being exudative, disappears on pressure while the cellular infiltration of the syphilitic papule can not be pressed away. The color of erythema is red, shading to vermilion, with a livid spot in the center, while the papules in syphilis are dark, livid brown, with an atrophic white umbilication in the center. The surface of the papule in erythema is smooth, in syphilis scaly, and its size much smaller, more circular and circumscribed. Erythema multiforme may complicate syphilis, or may be the direct result of the syphilitic poison circulating in the vascular system, or of the mercurial treatment. Cases of this kind have been observed by a number of writers (Finger, Neuman, Danielson and others), and they have all come to the conclusion that there must be some connection between the two diseases, that syphilis may facilitate the ap-

pearance of erythema multiforme. This causal relation may have existed in Case 6. The patient may have been a syphilitic or the erythema may have been produced by the mercury which he had been taking for two months. The salient point was to ascertain whether the visible symptoms were those of syphilis, which was important for the treatment to be employed, and for the reasons mentioned I could answer this question in the negative. Salicylates internally and astringent applications externally reduced the manifestations of the disease in a very short time. When the patient left the hospital after two weeks, the red areas had almost completely faded, leaving only slightly pigmented spots. The swelling of the soles of the feet had disappeared and the patient could walk without pain; the lips were normal and the fissures had healed. Cases of this kind are not rare. Lau⁴ reported a case of relapsing erythema multiforme, which was mistaken for syphilis and the patient repeatedly treated with mercury in different institutions and bathing resorts, so that he consumed in all about 4 pounds of blue ointment.

CONCLUSIONS.

Summarizing these observations, I would formulate my conclusions as follows:

1. The elements of diagnosis in cutaneous syphilis have only an arbitrary value.
2. The element of time is an unreliable factor in the diagnosis of syphilis. It may happen that simple sores with consequent swelling of the glands will develop in intervals corresponding to the periods of syphilis.
3. The regionary lymphadenitis is not absolutely pathognomonic for syphilis. We may see adenitis of inguinal and cubital glands following infection of simple wounds which have the characteristics of syphilis, viz., they are indolent and indurated.
4. The ensemble of all syphilitic symptoms, in exceptional cases, may be closely imitated by non-specific dermatoses. The diagnosis of syphilis can be made with absolute certainty only when based on positive as well as on negative findings, that is when we not only find the characteristic elements of syphilis, but when we can with certainty exclude all other skin diseases which may appear under the similar symptoms.

100 State Street.

THE PRACTICAL SIGNIFICANCE OF CERTAIN COMMON SYMPTOMS IN THE UPPER ABDOMEN.

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GALESBURG, ILL.

The upper and right hand corner of the abdomen is a field of present-day investigation which promises valuable returns for all efforts made to clear up its symptomatology. It has fallen to the lot of a new candidate for honors in the field of human diagnostic investigation to aid in this beneficent work, viz., the skilled operating surgeon. Surgery to-day, in the hands of the competent surgeon, bids fair to state definitely the reasons for the existence of the symptoms in the upper belly, long recognized by the internist. But neither the internist nor the pathologist, dealing, as they must, with things unseen within the abdomen of the living have even been in a position to point out their true pathology. This surgical investigator of living human pathology, it is hoped, will succeed in doing for us in