

plete anesthesia. Treatment by extension, counter and lateral extension was kept up until Feb. 12, 1902. Result: three-fourths inch shortening. Almost able to walk without crutch or other aid. Will have good use of the limb. Dr. Lucas says: "Patient suffered little discomfort after the Maxwell anatomic method was applied, and, I might say, less pain than any of my other six cases treated otherwise. No eversion of the foot exists at the present writing, April 30, 1902." I wish to state that Dr. Lucas made use of a very ingenious device to obviate the tendency to eversion by the adjustment of a bar across the top of the lateral pulley to the inner end of which the band around the upper end of the thigh was attached and to the other end of which the weight was attached. By this plan, should the patient move nearer to or farther away from the lateral pulley, the direction of the lateral pull was maintained at nearly an unvarying direction forward, upward and outward. (Fig. 11.)

CASE 40.—Adam H., aged 71 years. Physician, Dr. C. E. Ruth, Keokuk, Iowa. Fell April 26, 1902, on stone steps and complained of inability to move the leg and was in severe pain. On superficial examination I was undecided as to whether he had a severe bruise from fall or had impacted intracapsular fracture of the femoral neck, but inclined to the latter opinion, as marked flattening of the hip was easily demonstrated together with great pain on movement. Treatment was expectant for five days, when the fragments began to disengage, shortening and eversion took place and patient was then removed to St. Joseph's Hospital and the anatomic method of

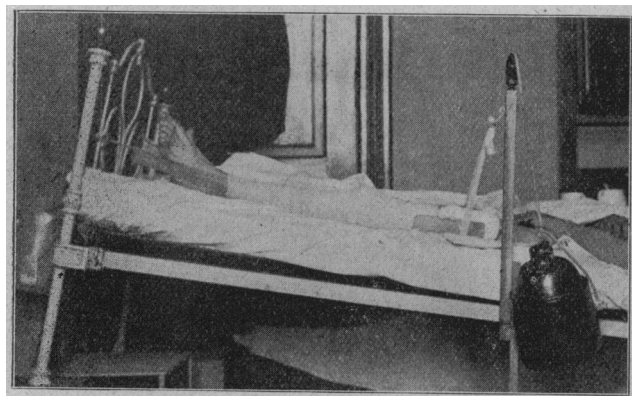


Fig. 12.—Illustrates method of applying longitudinal extension, counter and lateral extension.

treatment begun. Pain was at once relieved and patient remained comfortable save for a pleurisy which caused pain in left side for thirty-six hours. He was raised daily for cleansing, changing of clothes, etc, without pain. Large callus had formed by the tenth day. June 7, six weeks after injury, treatment discontinued, as union had occurred with good range of movement. Callus greatly reduced in size. Patient is able to sit up and is perfectly comfortable. Only one-fourth inch of shortening discoverable by repeated measurements by Dr. T. J. Maxwell and myself. Slight eversion exists. (Fig. 12.)

CONCLUSIONS.

Number of cases treated by this method so far reported, 40; number giving no demonstrable shortening, 16; number with one-half inch or less of shortening, 11; number with one inch or less of shortening, 10; number with flail limbs, no union, treatment abandoned in a few days, 3; total, 40.

Cases over 80 years of age, 9; union with ability to walk well, 5; non-union, 2; paralysis from debility with great age preventing walking, 2; total, 9.

Cases 70 to 80 years of age, 8; non-union, 0; good serviceable union, 6; died of brain softening, 1; union less than 2 months old, one-quarter inch of shortening, 1; total, 8.

Cases 60 to 70 years of age, 8; non-union, 0; good serviceable limbs, 8.

No failures to secure union under 80 years of age.

No failures to secure serviceable limbs in any case under 70 years of age.

Good serviceable union was obtained in 77.5 per cent.

Excluding 4 cases in which treatment was not continued 4 weeks gives serviceable limbs in 86 per cent.

Excluding cases in which treatment was abandoned within 4 weeks, death from intercurrent malady or in which the injury is too recent to report, gives good serviceable limbs in 100 per cent.

This Symposium on Fractures is to be continued by the papers of Drs. Thomson and Roberts, and the discussion on the three.

REPORT OF FOUR CASES OF SYPHILIS MISTAKEN FOR SMALLPOX,

WITH REMARKS ON THE DIFFERENTIAL DIAGNOSIS OF THESE TWO DISEASES.*

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PHILADELPHIA.

Of all diseases that protean and imitative malady syphilis is the one which is capable of most closely simulating smallpox. During almost every extensive epidemic of smallpox cases of the former disease are erroneously regarded as variola and are not infrequently sent into hospitals set aside for the treatment of this disease. This resemblance between smallpox and syphilis was noted by physicians several centuries ago. When syphilis was first recognized at the end of the fifteenth century it became necessary to distinguish it from smallpox which it occasionally resembled to a most striking degree. Variola was designated therefore small-pocks or smallpox, and syphilis, great-pocks or pox. (The word pock signified pouch or pocket, and was doubtless descriptive of the pocket left in the skin after the subsidence of the disease.) The same nomenclature was employed in the French language, *la petite verole* to indicate variola, and *la grande verole* or simply *la verole* to indicate syphilis. The error of confounding these two diseases is not confined solely to physicians of inexperience, but is from time to time made by those who have considerable acquaintanceship with smallpox.

CASES ILLUSTRATING THE RESEMBLANCE.

Since January, 1901, there have been treated at the Municipal Hospital about 1,900 cases of variola. Four patients suffering from acute syphilis were received during this period.

CASE 1.—C. H., a young woman of 21 years, was sent from another large hospital after having been seen by several physicians of repute. Nothing is known of the symptoms preceding the outbreak of the cutaneous efflorescence save that the patient was not sick enough to seek her bed.

The eruption appeared on April 14, 1901, as small pinhead-sized reddish papules, discretely scattered over the face, trunk and extremities. The lesions were most profuse on the back. In the course of two or three days small vesicles containing a little serum developed at the apices of the papules. On admission, April 25, some of the lesions presented small pustules with milky contents, others showed small crusts at their summits, but the vast majority were scaly.

The eruption remained more or less stationary for a week or ten days, when the patient was put on antisyphilitic treatment. During the period of her hospital stay she did not feel sufficiently ill to desire to remain in bed. About two weeks after admission she developed an iritis in the left eye which was in a short time followed by a similar condition in the right eye. After the disappearance of the eruption there remained reddish-brown stains and here and there on the back

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Cutaneous Medicine and Surgery, and approved for publication by the Executive Committee: Drs. W. T. Corlett, L. Duncan Bulkley and W. L. Baum.

oval pits. The patient had never been vaccinated, but secured a successful vaccination in the hospital.

CASE 2.—A colored man employed by a physician was sent into the hospital supposedly suffering with smallpox. On admission the disease was diagnosed as syphilis and the patient was placed in an uninfected building. He presented a generalized papular eruption over the face, arms, trunk and legs. On the following day he was discharged from the hospital.

CASE 3.—A young man, 20 years old, contracted a chancre about Sept. 1, 1901. October 21 he was examined by three skilful physicians, a professor of genito-urinary diseases, a professor of medicine and a city medical inspector. He was declared to have smallpox and was sent in to the Municipal Hospital. About a week prior to the development of the erup-

neath the crusts that had formed. A severe ulceration of the tonsils developed about this time. The patient was discharged from the hospital at the end of two weeks. By this time the ulcerative process had become pronounced. The lesions enlarged rapidly to the size of five-cent pieces, some indeed to the size of a silver quarter dollar. These became distinctly excavated and were covered with rupial-looking crusts. The soft palate was then attacked, extensive destruction of tissue taking place. The patient developed chills, high fever, sweats and rapid emaciation and was in imminent danger of death. Under the vigorous use of mercurial inunctions and a general tonic treatment, the patient improved and was again able to resume work. A couple of months later, although constant treatment had been kept up, the patient developed on the scalp two large ulcerating gummata. The malignancy of the disease in this patient is readily understood when such lesions manifest themselves scarcely eight months after infection. The point of interest in connection with this case is that a disease, later frankly syphilitic, should at the onset have presented such a strong counterfeit of smallpox as to have deceived several skilled and experienced physicians.

CASE 4.—A woman, aged 50, was sent into the hospital after having been carefully examined by several physicians. She presented on the face, trunk and extremities a generalized eruption consisting of lentil-seed-sized papules. She had had no distinct prodromal illness and was not at all prostrated on admission. On the left thigh near the groin was a round, firm, slightly elevated plaque about a centimeter in diameter with a superficially ulcerated surface. This was evidently the initial lesion of the disease which was diagnosed on admission as syphilis. The patient was immediately vaccinated and completely protected against the infection which surrounded her.

THE SIMILARITY BETWEEN THE TWO DISEASES.

It may at first thought seem strange that smallpox and syphilis should ever be confounded. On reflection, however, it will be seen that the diseases may have many symptoms in common. They are both infectious diseases, due, we may assume, to the invasion of the blood with a micro-organism. Each has a period of incubation, at the end of which there develop certain general manifestations accompanied by an exanthem and an enanthem. The resemblance may be still further accentuated by the fact that the variolaform syphilid is not rarely associated with and even preceded by fever and general aches and pains. It is particularly the pustular syphiloderm which is apt to be confounded with smallpox. This may be the first eruption to manifest itself or it may follow several months after the appearance of a macular or papular syphilid. The eruption at times may appear rather suddenly and pass through the stage of papule, vesicle and pustule in a surprisingly brief period of time. The lesions may be very firm to the touch and in other respects closely simulate those seen in small pox. Living, Jonathan Hutchinson and others have testified to the fact that in some cases the differential diagnosis is at the outset quite impossible. Hutchinson says: "The simulation of the variolous eruption by syphilis is the most marked example of syphilitic imitation. The papules are shotty to the finger, have depressed centers, affect the same region as variola and resemble it so absolutely that nothing but the history of the case can help the surgeon to a correct opinion."

HISTORY OF INFECTION WITH SYPHILIS.

In syphilis one can frequently obtain a history of infection and a description of the initial lesion. Indeed, the chancre or its remains may still be detected. Not uncommonly there are present associated evidences of syphilis, such as mucous patches, flat condylomata, ulceration of the tonsils, alopecia, etc. The variola-

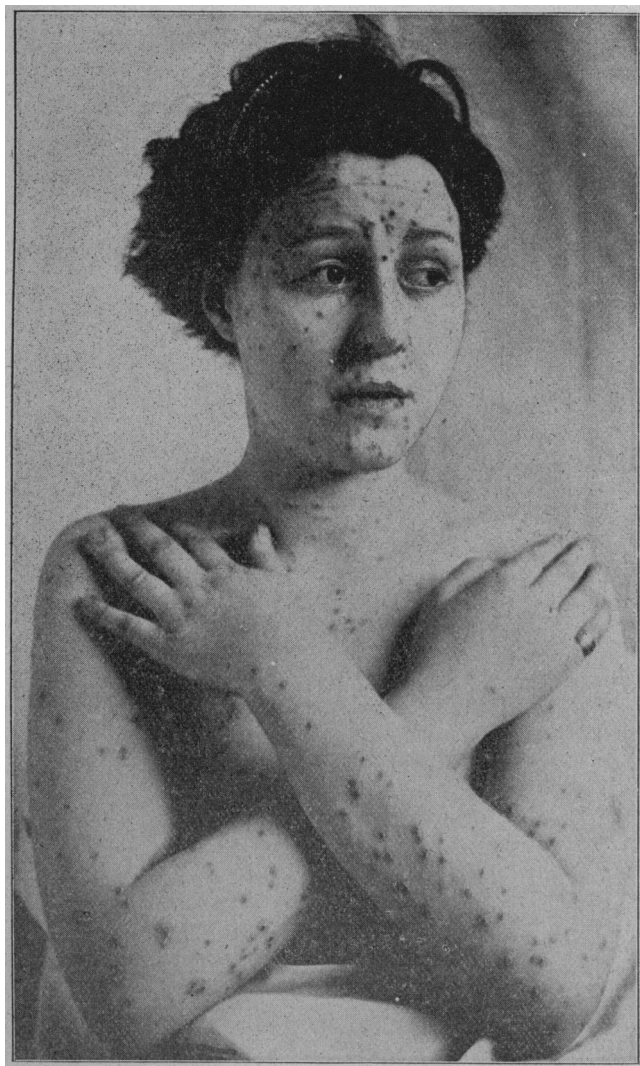


Fig. 1.—Case 1.—Papulo-pustular syphilide sent to hospital as a case of smallpox.

tion the patient had slight headaches, chilly feelings, fever and night sweats. These symptoms, however, were not of sufficient severity to cause him to cease his work. He had been feeling languid and weak for a month or more preceding the appearance of the eruption.

At first sight the eruption would have passed for the efflorescence of a discrete smallpox. On closer inspection, however, it became evident that something was lacking in the picture, although it would have been difficult to express this deviation in so many words. The suspicion of syphilis was strengthened by the presence of the remains of the chancre.

The eruption, which was present on the face, trunk and extremities, consisted of small reddish papules, some of which had acquired vesico-pustular summits. In about ten days these had increased in diameter and were beginning to ulcerate be-

form syphilid may develop after the disappearance of one of the earlier cutaneous outbreaks of syphilis.

DIFFERENCE IN ONSET.

The onset of the two diseases is, as a rule, quite different. The syphilitic patient will usually give a history of having felt weak and debilitated for some weeks. If fever precedes the eruption it is not very high and is not accompanied by severe prostration. When the rash appears the patient will usually call on the physician at his office or at a dispensary. We do not note that sudden illness which precedes unmodified smallpox. In this disease two or three days before the efflorescence appears the patient experiences a chill followed by a rise of temperature often to 103, 104 or 105. There are severe headache, backache, vomiting or nausea, vertigo, general pains and severe prostration. The patient instead of calling on the physician sends for him.

It must be remembered, however, that patients suffer-



Fig. 2.—Large papular syphilid suspected of being smallpox during the prevalence of an epidemic of the latter disease.

ing from an attack of smallpox that has been rendered mild through previous vaccination or through a certain degree of natural insusceptibility, often experience but slight initial symptoms. On the other hand, in rare cases, syphilis may produce an initial illness which strongly counterfeits that of smallpox. The following is a case in point:

W. J., a colored man, 24 years of age, developed a chancre about Nov. 1, 1901. Thursday, December 26, he was taken sick with fever, accompanied by great thirst and heat of skin, severe headaches and general pains. Following this, chilliness, fever and vomiting at night. He stopped work and went to bed on Thursday. Three days later an eruption developed. He rose from his bed January 2 and on the following day presented himself at the skin department of one of our hospitals. At this time he was covered with a profuse eruption consisting of pinhead and larger sized papules. The eruption was most copious on the back. The lesions were apparently at the mouths of hair follicles, and showed slight follicular umbilication in the center. The face showed lesions around the border of the

hair, on the forehead and in the bearded regions. The eruption was also present on the arms above the elbows and on the thighs. None was present on the wrists or hands. On the prepuce was a hard cartilaginous chancre, ulcerated in the center. Smallpox was at once excluded by the fact that the lesions had not developed to the stage indicated by the duration of the eruption.

SUDDEN ERUPTION IN SMALLPOX.

The appearance of the eruption in smallpox is rather sudden. Ordinarily in 48 hours the full complement of lesions is present. In syphilis the eruption may continue to come out for a number of days; in other words, the lesions appear in crops. It must be admitted, however, that in some cases of modified smallpox the appearance of the lesions may, in some cases, be spread over a period of three or four days.

It is stated in a prominent treatise on smallpox that enlargement of the inguinal glands may be regarded as a manifestation pointing to the diagnosis of syphilis. The writer has on many occasions examined the inguinal glands in smallpox with the view to their comparison with those of syphilis. It may be stated that the superficial glands are, as a rule, considerably enlarged in smallpox. The presence of a generalized or localized adenopathy is therefore of little or no diagnostic value.

DISTRIBUTION OF ERUPTION.

The distribution of the variolaform syphilid may be identical with that seen in smallpox. Frequently, however, there are variations observed. The pustular syphilid may involve the trunk more copiously than the face. This would be excessively rare in a well-marked smallpox. The dorsal surfaces of the wrists and hands are nearly always involved in smallpox, but may escape entirely in syphilis. The palms of the hands and the soles of the feet are always involved in severe smallpox. In moderate eruptions they nearly always present some lesions; in mild cases of varioloid they may or may not escape completely. The pustular syphiloderm affects the palmar and plantar surfaces with the greatest rarity. In Case 4 the writer observed a single lesion on the palm of one of the hands. In another case a deep-seated pustule was seen on the lateral surface of the sole of the foot. All writers are agreed as to the great infrequency of the lesions of the pustular syphiloderm on the palms and soles. This is in striking contrast with the papular syphiloderm which commonly involves the palmar and plantar surfaces.

THE CHARACTER OF THE ERUPTION.

In the beginning the eruption may be so nearly identical in the two diseases as to make a diagnosis from this symptom alone quite impossible. It will be noted, however, that the efflorescence of smallpox presents a much greater degree of uniformity, a more uniform development of the lesions over the body than does syphilis. (It should be remembered, however, that the lesions on the face in smallpox are, as a rule, a little in advance of the eruption elsewhere.) Syphilis is characterized by an essentially multiform eruption; it is not uncommon to find small pustules, large pustules and papules interspersed and these in varying stages of evolution and involution. The lesions of syphilis may be grouped in the form of circles or segments of circles, particularly about the border of the hair, the commissures of the mouth, etc. The vesicles and pustules of syphilis are usually conical and involve merely the summits of the elevation. They never become full and globular, filling the entire lesion, as do those of smallpox. The pustules of syphilis may remain small or may

later grow to large size, drying into brownish or greenish crusts. Beneath the crusts considerable ulceration not uncommonly occurs, according as that is slight or severe there will be seen on detachment of the crusts a reddish brown pigmented oval or round stain or an excavated ulcer. The latter heals with the production of depressed scars. The superficial and non-ulcerated pustules frequently exhibit at their base a scaling collarette.

THE COURSE OF THE ERUPTION.

The course of the syphilitic eruption is relatively chronic compared with that of smallpox. The lesions of variola undergo a striking change in a few days. The syphilitic efflorescence is indolent and presents, as a rule, no decided alteration of appearance within this period of time. By the sixth or seventh day in smallpox the lesions develop into these full, round, hemispheric, grayish or yellowish pustules, which are so characteristic of the disease.

Finally, to the physician who has seen much of smallpox, there is a something in the picture, an impression given by the *ensemble*, which, while not definable in language, is nevertheless a subtle aid in the diagnosis. Whenever the diagnosis between syphilis and smallpox is in doubt, observation of the progress of the eruption for a period of 24 or 36 hours will usually make clear the nature of the disease.

DISCUSSION.

DR. W. S. GOTTHEIL, New York—In spite of the distinguishing points to which Dr. Schamberg has called attention, there are occasional cases in which it seems impossible to differentiate syphilis from variola. During a smallpox epidemic that occurred some years ago in New York a number of patients suffering from the disease were sent to the venereal wards of the old Charity Hospital with the diagnosis of lues, the mistake being exactly the opposite to the one here recorded. These cases are often seen only once, and a diagnosis must be made; and in doubtful cases I would place much reliance on the fact that in variola the lesions are all of about the same age and in the same stage of development, while in the pustular syphiloderma there are younger papular efflorescences interspersed with them. In some cases, however, it is quite impossible to make an absolute diagnosis immediately.

DR. A. RAVOGGI, Cincinnati—The point that the distinction between syphilis and smallpox may be made by the history or presence of a chancre can help the diagnosis, but in cases of syphilis taking smallpox this sign would be of little value. I find that not much attention has been called to the condition of the mucous membranes of the mouth, and this is one of the symptoms on which, when present, I place a great deal of reliance. In smallpox we have lesions of the mucous membranes of the palate, which is especially seen at the time of the prodrome, a few hours before the eruption appears in form of small, reddish points or of small vesicles, scattered over the soft palate. In syphilis we have an entirely different condition of the mucosa of the mouth in form of erythema faucium and mucous patches, which can be considered one of the best characteristics distinguishing between smallpox and syphilis. I have been called in consultation by health officers of small cities or by physicians who had quarreled between themselves, some saying it was a case of smallpox and some saying it was a case of syphilis, and in order to avoid a lawsuit they wanted it decided right away. I have found it rather difficult to decide in so short a time whether it was smallpox or syphilis. The condition of the mucous membranes has sometimes helped me out in those doubtful cases. The fever, too, is a good sign. In syphilis the fever is only accidental and is very mild, but in cases of smallpox usually it is of a more severe type, preceding for a couple of days the eruption, which comes much quicker than any eruption of syphilis.

DR. W. T. CORLETT, Cleveland—I agree with Dr. Ravogli that sometimes to make a differential diagnosis on the spur of

the moment is indeed a difficult task. In two instances within the last six months I have been forced to make a snapshot diagnosis from insufficient data; in both a few hours revealed the error of this practice. In another case the physician in attendance gave the clinical history as follows: The man had been ill four days, had been sick and vomited, had a rise of temperature of four degrees, had irregular pains in his shoulders and back, and there was a distinct eruption, first appearing on the back, and when I saw the patient a few days later it was appearing on the anterior aspect of the body. It appeared to be a typical case of variola, and after studying the case for more than 24 hours we found a new group of vesicles appear. But the eruption was not evanescent, and in a few days slight induration could be detected, when it looked like variola. This was excluded within a few days, and it was not until nearly a fortnight had elapsed that a positive diagnosis of semi-malignant syphilis was made. As Dr. Ravogli has said, the multi-form character of the lesions with the tendency to induration at their base is an important feature to take into consideration in making diagnosis.

DR. C. W. ALLEN, New York—I recall a case in which the history and presence of chancre was not present to guide us, but there was an extensive phagedenic ulceration of the prepuce and glans penis that had undermined the skin of the penis up to or almost to the pubes. The nature of this phagedena was not known, but we discovered groups of pustules all over the body, the ears, face and forehead and all over the back. It looked very much like smallpox and there was nothing to show that there had ever been a chancre present. We had suspected that the phagedena was probably of chancreoid origin. We referred the case to the Board of Health, and after a very careful analysis of the case they isolated the man. They did not want to send him to the smallpox hospital that day, but they thought the case was thoroughly suspicious, and they kept him isolated two or three days—it turned out to be syphilis. That was the first eruption the man had had, and the lesions were all pustules, with no multiformity of lesions. They were all of the same nature.

DR. H. W. STELWAGON, Philadelphia—I have met with one instance in which a positive diagnosis between syphilis and smallpox could not be made for a period of nearly three days. This case was also seen by one of our best clinicians; it was seen by a specialist in genito-urinary diseases, and by other physicians, and for almost seventy-two hours not one was willing to venture an absolute opinion, but it turned out to be a case of syphilis.

CONCERNING SOME VACCINAL ERUPTIONS.

HENRY W. STELWAGON, M.D.
PHILADELPHIA.

The discussion which followed this address at the Saratoga meeting was, by an error, omitted last week (THE JOURNAL, November 22, p. 1291). It is as follows:

DISCUSSION.

DR. M. B. HARTZELL, Philadelphia—This subject is one which has been very much neglected. There is no doubt that eruptions of various kinds may follow vaccination, some of them at times serious, perhaps even dangerous to life. I think it would be worth while for those interested in diseases of the skin to study this subject carefully. The whole subject is in a good deal of confusion, and I regret to say that many physicians, as well as the laity, are inclined to regard vaccination as responsible for all sorts of things. Personally, it has seemed to me unscientific that vaccination should be regarded as a cure for anything or a preventive of anything but variola, yet the layman is convinced that vaccination works some change in the blood which alters the susceptibility to diseases of the skin. People have come to me and desired to be vaccinated because they thought it would cleanse their blood. The profession itself is largely to blame for some of these ideas because there are many physicians that either tacitly or in so many words declare that vaccination is responsible for all sorts of things. It has happened frequently that patients have