Three unusual forms of cutaneous tuberculosis / by Howard Fox.

THREE UNUSUAL FORMS OF CUTANEOUS TUBERCULOSIS.

By Howard Fox, M.D., New York.

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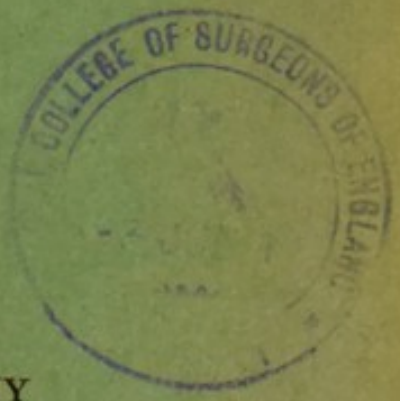

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PLATE V.—To Illustrate Article by Dr. Howard Fox.

Fig. 2. Case 1.
Lupus Vulgaris Serpiginosus.

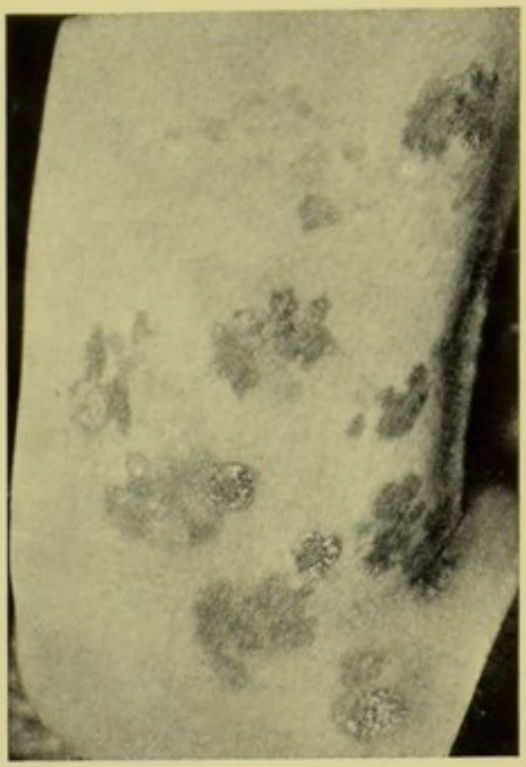

Fig. 3. Case 2.
Superficial Cutaneous Tuberculosis.

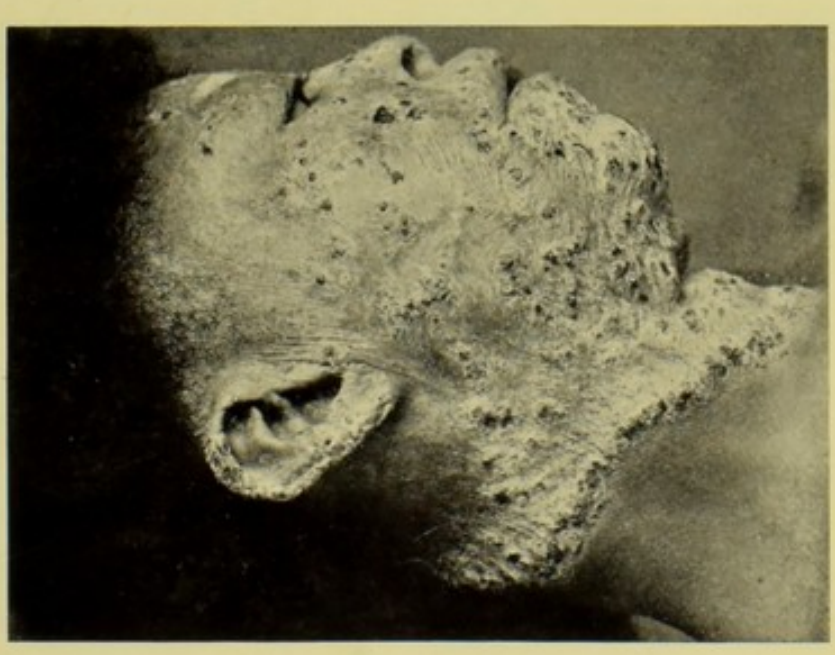

Fig. 1. Case 1.
Lupus Vulgaris Serpiginosus.

THREE UNUSUAL FORMS OF CUTANEOUS TUBERCULOSIS.*

By Howard Fox, M. D., New York.

DURING the past three years I have had the opportunity of treating three unusual cases of cutaneous tuberculosis, each of which has been presented one or more times before dermatological societies. The object of this communication is to make the report of these cases more complete by the addition of illustrations and by giving the result of some animal inoculations. That the clinical diagnosis in the first two of my cases was extremely difficult can be seen from the varying opinions expressed by the dermatologists before whom the patients were presented.

My first case of lupus vulgaris serpiginosus is perhaps of the greatest interest. This was a mulattress who was first seen in November, 1908.

The patient was twenty-two years old, single, a domestic by occupation. Her father and mother had both died of lung trouble. When eleven years old she had suffered from "lumps" in the axillæ, which broke down and discharged for some time. The eruption had first appeared seven years previously upon the upper lip and had gradually spread till the greater part of the face was involved. Coincident with the outbreak of the eruption, the patient also noticed swellings at the side of the neck, which broke down and discharged. The lesions on the knee first appeared four years ago and the one upon the arm a year before. Six months ago the eye had become affected and three months previously the mucous membrane of the nose had become involved. The general health of the patient had been good. With the exception of the upper part of the forehead the entire surface of the face, including the ear and upper part of the neck was affected. The eruption consisted of large, soft tubercles, many of them crusted and scattered about the face without any particular grouping. Upon the neck they formed a sharply defined, wavy, serpiginous border. Between the nodules the skin showed a moderate degree of scarring, though not of the fibrous scarforming variety of ordinary lupus. No apple-jelly nodules were to be seen. Upon the dorsal surface of the right forearm there was a circinate and serpiginous lesion about three inches in diameter. There were also similar serpiginous patches on the knee and leg. There was slight destruction of the cartilage of the tip of the nose, giving it a beak-like appearance. The left eye showed ectropion, conjunctivitis, general opacity of the cornea and two small corneal ulcers. The Wassermann and Noguchi reactions (made after the patient had taken "mixed treatment" for three weeks) were negative. The von Pirquet

*Read before the 35th Annual Meeting of the American Dermatological Association, Boston, Mass., May 25-27, 1911.

reaction was strongly positive. The results of a biopsy that had been made from the lesions of the face were inconclusive. The lungs were apparently normal. The urine contained no abnormal ingredients.

The probable diagnosis of lupus vulgaris was based upon the following points: the family history of tuberculosis, the patient's age, the history of suppurating glands, the beak-like appearance of the nose, the positive von Pirquet and the negative Wassermann reactions. In the discussion that followed her presentation before the New York Dermatological Society, a combination of syphilis and lupus was suggested by one of the members, who stated, however, that the "nibbled and atrophic condition of the alæ of the nose was very characteristic of lupus." Another member thought the lesions on the leg due to syphilis, while those on the face "did not seem to be at all specific." Still another thought a combination of the two diseases possible, but "was inclined to believe, however, that all the lesions were the result of one infection." Three of the members considered the case to be one of tuberculosis.

At a presentation of the patient before the Dermatological Section of the Academy of Medicine, November 10, 1908, three of those who took part in the discussion considered the entire process to be syphilitic, one of them believing the disease to have been inherited. One member considered the development too rapid for lupus and another thought that the "preservation of the cartilage of the nose in a case where there was such a general involvement of the skin was against the diagnosis of lupus vulgaris, as also the apparently normal skin in the centre of the lesion on the arm".

Realizing that three weeks of "mixed treatment" was not a conclusive therapeutic test, it was decided at the urgent request of one of the gentlemen present to give the patient injections of colomel followed by the internal administration of potassium iodide. The patient was accordingly admitted to the wards of the Skin and Cancer Hospital (service of Dr. George Henry Fox) and given ten intramuscular injections of calomel, at weekly intervals, in doses varying from a grain to a grain and a half. A month later she was given potassium iodide for six weeks, in increasing doses up to forty grains three times a day. After this vigorous treatment there was a very slight improvement of the lesions of the face and quite a marked improvement of the lesions upon the extremities.

The patient was presented for a second time on April 9, 1909, before the Dermatological Section of the Academy of Medicine and again, three of the members felt that the improvement warranted a diagnosis of syphilis. An entirely opposite view was, however, held

by all of us who had observed the patient at the hospital. We felt that a reasonable improvement in lupus, especially the serpiginous form, might be expected from the use of mercury. In our opinion, it was far too slight to warrant a diagnosis of syphilis. The diagnosis of tuberculosis of the lesions of the neck, at least, was finally confirmed by inoculation of guinea pigs kindly made by Dr. Bertha Van H. Anthony, from which cultures of the human type of tubercle bacilli were obtained.

On March 14, 1910, a piece of skin was excised from a lesion upon the neck, finely minced and ground thoroughly in normal salt solution, and inoculated into three guinea pigs. On May 23, one of the pigs was killed and showed slight tuberculous lesions at autopsy. Cultures made from the spleen, inguinal and retro-peritoneal nodes of the pig, on glycerine-egg media, gave the characteristic growth of the human type of the tubercle bacillus. On September 15, three rabbits were injected, intravenously, with material from the glycerine-egg cultures. Two rabbits received 1/100 mg. each and one 1/1000 mg. After fifty days one of the 1/100 mg. rabbits died (having been bled several times for other purposes). This rabbit showed moderate tuberculous lesions of the lungs. The other two rabbits, which were killed sixty-two days (1/1000 mg. rabbit) and seventy-six days (1/100 mg. rabbit) after injection, showed very slight tuberculous lesions of the lungs and kidneys. These findings were in marked contrast to the generalized lesions caused by bovine cultures injected in the same amounts, which always caused the death of the rabbits in about thirty-five days.

My second case of unusual tuberculosis of the skin, was referred by Dr. George T. Jackson to the Skin and Cancer Hospital for treatment, and was presented before the New York Dermatological Society on April 26, 1910, as a case for diagnosis.

The patient was a Swedish woman, a domestic, twenty-eight years of age. She gave no history of tuberculosis and no history of syphilitic infection. As a child she had suffered from swellings at the side of the neck, which had finally disappeared spontaneously. The eruption had first been noticed four years previously. It consisted of about ten groups of lesions upon the inner aspect of the right thigh and knee. Some of these lesions were simply pigmented macules, while others were rather superficial, soft and slightly scaly, split-pea-sized nodules. There was no evidence of ulceration, necrosis or of scratching. Indeed, according to the patient's statement, the eruption had never occasioned the slightest subjective symptoms. Some of the nodules were dull in color and very suggestive of lupus. There were, however, no typical apple-jelly nodules. Some of the lesions, which were flattened and yellowish-brown in color had, according to the patient's statement, formerly been reddish and elevated. The

Wassermann and von Pirquet tests were both negative. The urine showed no abnormal constituents. The lungs were apparently normal.

In the discussion of this case several of those present considered it to be lichen planus; one thought it was syphilis and another suggested that the nodules looked like lupus. The situation of the eruption, a shiny appearance of some of the lesions and the presence of pigmentation, favored the diagnosis of lichen planus. Against this diagnosis was the total absence of itching and the fact that some of the lesions were distinctly nodular in character and not like the papules in lichen planus. The patient was later treated for some months with tablets of protiodide of mercury without the slightest effect upon the eruption.

The tuberculous nature of the affection was finally shown by a biopsy kindly made by Dr. Udo J. Wile, whose report was as follows:

"The epithelium showed marked thinning, in places being reduced to two rows of cells. The surface, however, was unbroken. There was slight intracellular œdema in the lower cells of the rete. The main change was seen in the subpapillary layers and consisted of a broad strip of infiltration extending parallel to the surface, encroaching closely upon the basal layer of the cutis. The rather sharp circumscription of this infiltrate was striking. The infiltration itself consisted of epithelioid cells, small round cells in larger numbers, and scattered here and there giant cells of the Langerhans type. These cellular elements were not arranged in typical circumscribed tubercles, but they constituted a diffuse form of infiltration. There were moderate numbers of plasma cells scattered through the infiltrate and a few were also seen surrounding the vessels of the deeper layers of the cutis. Much of the infiltrate showed definite necrobiosis and softening and this was especially true of the cells lying in the neighborhood of the giant cells. The elastica was seen as fragmented bands; at the periphery of the infiltrate it was entirely absent within the process itself. A few small veins within and at the margin of the infiltration showed obliterative changes. These changes, while not those of lupus or tuberculosis verrucosa cutis, nevertheless constituted a picture which might be interpreted as a superficial form of cutaneous tuberculosis".

As a result of subsequent X-ray treatment, the patient has shown a most decided improvement. She was given about twenty-two exposures of ten minutes' duration, the entire area being treated at each sitting. A medium hard tube (Piffard type) was used, at a distance of four inches from the target, using two amperes of current.

My third case of unusual tuberculosis which was shown before the New York Dermatological Society, October 25, 1910, presented two ulcerations of the mucous membrane of the lower lip.

The patient was a man, thirty-six years of age, who gave a family history of tuberculosis, although he himself had apparently never had any symptoms referable to pulmonary or other form of the disease. His general appearance,

PLATE VI.—To Illustrate Article by Dr. Howard Fox.

Fig. 4. Case 2.
Superficial Cutaneous Tuberculosis.

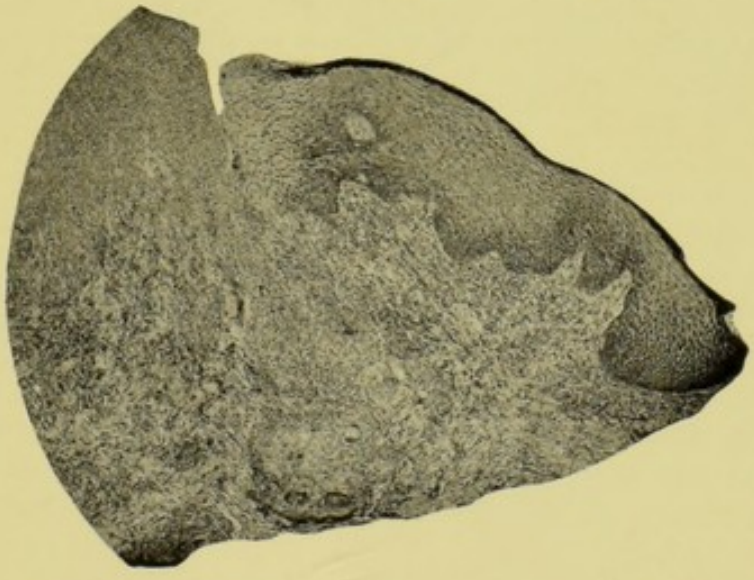

Fig. 5. Case 3.
Tuberculous Ulcer of the Lip.

however, and build were those of a likely subject for tuberculous infection. The labial ulcers had first appeared fifteen months previously and had healed at the end of a year. The ulceration reappeared about two months later and at the same time he first noticed a swelling in the submaxillary region.

An examination showed two crescentic ulcers, about a quarter of an inch in length, upon the central portion of the mucous membrane of the lower lip. Meeting posterially in a small area of scar tissue they diverged, and extended forward nearly to the vermilion border of the lip. The margin of the ulcers was fairly sharp, the base was necrotic and emitted a disagreeable, foul odor. The lesions were tender and bled easily upon slight traumatism. They were moderately deep and somewhat indurated. In the right submaxillary region was an olive-sized, hard, round, slightly tender enlargement. The lungs were apparently normal. The urine showed no unusual constituents. The Wassermann reaction was negative. The tuberculin test was unfortunately not made.

A biopsy made by Dr. Udo J. Wile showed the following evidences of tuberculosis:

"Under the low power the section showed a deep ulcer from which the epithelium arose abruptly on either side. The epithelium was slightly thickened where it approached the sides of the ulcer and its lower layers were invaded by numbers of polymorphonuclear leucocytes. The floor of the ulcer itself was made up of large numbers of round cells of the small lymphoid type, a few plasma and mast cells, and scattered here and there giant cells of the Langerhans type; a few typical tubercles were also seen in the ulcer itself, but more typical tuberculous structure was seen in the submucosa and even as far as and invading the muscularis. Here were large numbers of circumscribed tubercles of text-book type, each having a central giant cell surrounded by a layer of epithelioid cells, these in turn being surrounded by small round cells. In many of such circumscribed tubercles a definite central softening and necrosis were noticeable. Very striking, also, were the large numbers of mast cells surrounding and scattered about the nodules. A very large number of sections were stained for tubercle bacilli and a few acid-fast organisms were finally found in one of the sections".

The ulcers were treated by two applications of the acid nitrate of mercury and at the end of two months had almost entirely healed. The enlargement of the submaxillary gland had, however, remained unchanged. The patient later came under the care of Dr. Robert Abbe, who treated the relapsing ulcer with radium and obtained temporary improvement. Very recently I learned that the patient had developed evidences of pulmonary tuberculosis and had gone to the Pacific coast. As to whether the ulceration upon the lip was the primary focus of the disease is, unfortunately, impossible to determine.

DISCUSSION.

Dr. Gilchrist referred to the value of the antiformin test in these cases. By this test, all substances were digested excepting the tubercle bacilli. It was much more easily applied, he thought, than the guinea-pig test.

Dr. Trimble, referring to Dr. Fox's third case, said that we would probably find more cases of tuberculosis of the mucous membranes, if a more routine

search were made for them. During the past year he had seen three cases of tuberculosis of the lip and tongue which had been diagnosed at several clinics as syphilis. The fact that they had been diagnosed as luetic, was not surprising, as syphilis was much more common in this location than tuberculosis. It was, also, no easy matter to differentiate between them, upon the clinical examination alone. The speaker did not think that these cases were so rare as they were generally believed to be.