similar pustular lesions have been met with in which the bacteriological examination revealed a Gram-negative diplococcus in direct smear and giving a pure growth in blood-agar, and morphologically similar to the gonococcus but rather smaller. The organism was put through the sugars and found to give an acid reaction without any gas formation in glucose, lactose and saccharose.

UNILATERAL STRIÆ ATROPHICÆ (STRIÆ CUTIS
DISTENSÆ) OF THE THORAX.*

By F. PARKES WEBER, M.A., M.D., F.R.C.P.

THE patient, A. G—, a young man, aged 18 years, a tailor, was admitted to hospital on June 29th, 1917, with severe pulmonary tuberculosis, more advanced in the right lung, in which lung there are extensive cavernous signs. He has moderate pyrexia, of the hectic type, and his sputum contains abundant tubercle bacilli. He himself says that his illness commenced with "influenza" in October, 1916, up to which time he had not been severely ill. Since the commencement of the illness, he says he has been accustomed to lie on the left side (or rather, half-turned to the left side), because whenever he tries to lie on the right side he starts coughing, and lying on his back also brings on coughing. Over the left lower postero-lateral portion of the thorax he has a cluster of "cleavage" stripes, so-called *striæ atrophicæ* or *lineæ atrophicæ* (also called *striæ cutis distensæ*), which he states developed about one and a half weeks before admission to hospital, that is to say, about the middle of June, 1917. They are still purplish in colour, and have not yet acquired the glistening white appearance of so-called *lineæ albicantes*, into which they may be expected to develop later on. Their shiny transparent surface allows numerous small blood-vessels to be seen in them on close inspection, but this gives them, when viewed from a little distance, their diffuse purple tinge. They are arranged transversely to the long axis of the body, as such striæ always are, when they occur on the thoracic or lumbar region of the back. In the present case they occupy, as already stated, the postero-lateral infrascapular

* Case shown at the Dermatological Section of the Royal Society of Medicine on July 19th, 1917.

area of the left ribs, that is to say, the area below the level of the lower angle of the scapula. Owing to the invariable position of the patient, lying as he does half-turned towards his left side in bed, with his shoulders propped up on pillows, the convexity of this left postero-lateral region of the thorax is abnormally increased, and consequently the skin over it is kept distended. This explains why the cleavage lines (*striæ atrophicæ* or *striæ cutis distensæ*) have

appeared in that situation, as I shall endeavour to make clear (see figure).

Striæ atrophicæ or *striæ cutis distensæ* are the result of rupture, or rather "cleavage," of the deeper layers of the cutis, and when this cleavage is not caused by distension of the skin from pregnancy, ascites, large tumours, arthritic swellings, subcutaneous œdema, or excessively rapid growth of subcutaneous fat, it is nevertheless almost always due to distension or stretching in some way or other,* though the mechanism may appear obscure. It is this relatively

* For this reason, I think, the term *linear atrophy of the skin*, sometimes applied to these cases, is a bad one. It suggests an ætiological analogy with the condition known as *macular atrophy of the skin* (*maculæ atrophicæ*)—a totally different condition.

obscure group (to which the present case belongs) that I shall now shortly consider. It may be subdivided under two headings:

(a) Cases of *striæ atrophicæ* about the shoulders, elbows, hips, buttocks, and thighs, due to rapid growth (local or general) at or about the period of adolescence, the growth of the skin apparently not being able to keep up with the growth of the long bones and of the muscles and subcutaneous tissue covering the long bones and joints. Nearly all the cases of so-called "idiopathic" *striæ atrophicæ* may be classed in this subdivision. Thus, several years ago, I saw a well-developed muscular young man, aged 17 years, who had recently developed typical *striæ atrophicæ* about the shoulders, over (and somewhat in the direction of the fibres of) the deltoid muscles. There had been no illness, accumulation of fat, nor œdema, to account for the skin cleavage, but the boy was growing rapidly. Similar cases are not very rare, I think. Dr. Arthur J. Hall, Major, R.A.M.C.(T.), has kindly told me of an interesting case of "striæ" in the lower half of each breast in a young unmarried woman. The breasts had apparently never been bigger, and there had certainly been no pregnancy. Dr. Hall suspected that the striæ in that case were due to stretching of the skin by pressing the breasts upwards (by means of stays) so as to secure a "good figure."

(b) Cases, like the present one, associated with a febrile or wasting disease, starvation or grave inanition of some kind.

Cases of Group (b) have been known to be connected with typhoid fever, appendicitis, colitis, dysentery, rheumatic fever,* severe pulmonary tuberculosis (as in my present case), pneumonia,† cerebrospinal meningitis, scarlet fever, diphtheria (not quite certain), mumps,‡ Hodgkin's disease, intrathoracic malignant disease, septic osteomyelitis, septic wounds, and various suppurative and other diseases and conditions of both medical and surgical interest. In these cases there is a kind of malnutrition of the skin, which forms part of the general malnutrition of the body, and it leads apparently to diminished distensibility (elasticity) and favours cleavage. Occasionally it may be connected with diarrhœa (as in some typhoid fever cases) and wasting diseases. But, apart from that, it is not quite clear why

* Sangster, *Brit. Journ. Derm.*, Lond., 1907, xix, p. 96.

† Cf. F. Craven Moore, *Practitioner*, Lond., 1908, lxxxi, p. 397.

‡ Cf. E. G. Graham Little, *Proc. Roy. Soc. Med.* (Sect. Derm.), 1912, v. p. 77.

this special malnutrition of the skin should be present in some cases and not in others of equal or even greater severity. That a peculiar nutritional condition of the skin is sometimes present during typhoid fever is certain. Thus, it is well-known that chronic psoriasis sometimes more or less completely disappears during typhoid fever, generally to reappear sooner or later after recovery from the fever. Little wounds made during the height of the fever (as in opening small abscesses) have a tendency to gape in a most peculiar manner before they ultimately heal up by granulation. Some time ago, in a grave case of typhoid fever under my care, a boil on the front of the thigh was incised, and I observed that in the course of the next day the skin retracted so much that the same incision came to appear like a big fissure in the skin, the wound afterwards healing by granulation. As mentioned above, excessive diarrhœa in typhoid fever may doubtless increase the ordinary febrile dryness of the tissues and possibly diminish distensibility (elasticity) of the skin. Anyhow, because typhoid fever and other febrile and wasting diseases do not usually give rise to *striæ atrophicæ* of the skin, it is certainly not right to argue that therefore these striæ, when they do occur in association with such diseases, must be causally unconnected with them. By a similar line of argument one might come at once to the conclusion that tabes dorsalis and general paralysis had no connection with syphilis.*

Another ætiological factor that must be taken into account is that in young persons during typhoid fever and similar illnesses the growth in length of the skeleton is sometimes greatly accelerated. This increased rate of growth has been attributed to the fact that, owing to the illness, the patient is lying in bed and thus the normal retarding influence of the weight of the body on the growth in length of the vertebral column and (especially) the long bones of the lower extremities, is removed. Moreover, in such young persons confined to bed owing to illness, the muscles and subcutaneous tissue about the shoulders, hips and thighs seem sometimes to increase in size so as unduly to distend the skin over them, and thus give rise to "cleavage striæ," notably over the deltoid muscles, gluteal muscles, and the great muscles of the thighs. Such striæ probably appear

* Cf. F. Parkes Weber, "Remarks on Localised Flushing . . . also on Striæ Patellares," *Med. Press, Lond.*, 1905, cxxx, p. 261.

more frequently about the shoulders in males and about the buttocks in females, as has been emphasised by Craven Moore in regard to striæ associated with pulmonary diseases.* L. Bleibtreu† and L. Silberstein‡ have especially drawn attention to the occurrence of striæ over the nates in girls after scarlet fever, and it seems to me that in such cases the favourite position of the patient in bed may have been one in which the hip-joints were flexed, thus causing prolonged distension of the skin over the nates.

The sites of the *striæ atrophicæ* that develop during febrile diseases have been supposed sometimes to be connected with pressure of the bedclothes, but they are obviously nearly always determined by the position of the patient's body in bed. The striæ are, in fact, produced where the skin is kept distended. Thus, when the patient during the illness lies habitually with his knees flexed, the tendency is for the *striæ atrophicæ* to form over the convexity of the joint (that is to say, where the skin is kept abnormally distended), constituting the local condition known as *striæ patellares*.§ When one knee is flexed to a greater degree (or more frequently) than the other, the *striæ patellares* are likely to be unilateral and limited to that knee, or to be more numerous and more marked over that knee than over the other. Owing to the patient's shoulders being propped up with pillows the striæ not rarely occur where the skin is stretched over the convex part of the back below the shoulder-blade level (*i. e.* below the part of the trunk which is pressed forwards by the pillows). If the striæ are limited, as in my present case, to one side of the trunk, or are more numerous on one side than on the other, it will be found that the patient during the illness has been lying more or less on one side, propped up in bed. In such cases it is on the more convex side of the trunk (over which the skin is necessarily more distended) that all the striæ, or most of them, form. Thus, in my present case, owing to the active tuberculosis of the right lung, the patient has been

* F. Craven Moore, *loc. cit.*

† L. Bleibtreu, *Münch. med. Wochenschr.*, 1905, lii, p. 1767.

‡ L. Silberstein, *Münch. med. Wochenschr.*, 1905, lii, p. 2185.

§ On *Striæ patellares* and the whole subject of *Striæ atrophicæ* and *Striæ cutis distensæ*, cf. G. Fischer, *Münch. med. Wochenschr.*, 1904, li, p. 482; H. Köbner, *ibid.*, 1904, li, p. 928; K. Zieler, *ibid.*, 1905, lii, p. 1764 (with many references to older literature on the subject); L. Bleibtreu, *ibid.*, 1905, lii, p. 1767; J. L. Bunch, *Brit. Journ. Derm.*, 1905, xvii, p. 1; F. P. Weber, *loc. cit.*

lying with the right lung uppermost*—his shoulders having been, as usual, propped up with pillows. The striæ have developed over the abnormally convex part of the trunk, which in that position of the body is the lower left postero-lateral portion of the thorax (the outer part of the infrascapular region). Whilst the photograph of the striæ was being taken the curved position of the trunk in which the patient had been lying, was as far as possible maintained.

Cases more or less like this one, in which *striæ atrophicæ* are more numerous on one side of the trunk than on the other, are not very rare. During the last few years I have had two cases of fatal Hodgkin's disease or "Lymphogranulomatosis maligna" (with pulmonary complications, in young adults), in which *striæ atrophicæ* occurred on the trunk and were unilateral or more marked on one side than the other. H. D. Rolleston† published an illustration of a case in which there were *striæ atrophicæ* more numerous on one side of the trunk than on the other, associated with malignant disease of the pleuræ and peritoneum. In another curious case demonstrated by Rolleston there were unilateral striæ of the back.‡ In a case shown by E. Laming Evans§ the striæ were nearly unilateral, affecting the thoracic and lumbar regions of the right side of the back. The patient, a soldier, aged 19 years, had had a severe wound, with febrile complications and constitutional symptoms. This probably favoured the development of the *striæ atrophicæ*, in the same way that typhoid fever does, but the young man's position in bed doubtless determined the localisation of the striæ by rendering the skin more tense on one side (*i. e.* the more convex side) of the back than on the other.

Note.—Dr. Arthur J. Hall, Major, R.A.M.C.(T.), has kindly sent me the following notes of a remarkably similar unilateral case of striæ under his care in the Third Northern General Hospital. "The patient, a young man, aged about 20 years, was admitted on account of a pleural effusion of the left side. There were no *striæ atrophicæ* on admission. The left chest was distended with fluid, pushing over

* Patients with pulmonary tuberculosis mostly lie with the side on which the tuberculosis is more active uppermost.

† H. D. Rolleston, "Remarkable Striæ Atrophicæ due to Cachexia," *Brit. Med. Journ.*, 1908, i, p. 494.

‡ H. D. Rolleston, *Proc. Roy. Soc. Med.* (Clin. Sect.), 1909, ii, p. 59.

§ E. L. Evans, *Proc. Roy. Soc. Med.* (Sect. Derm.), 1915, viii, p. 230.

the heart and causing considerable respiratory distress. Paracentesis was performed and a large quantity of fluid withdrawn. It filled up again very quickly and the operation had to be repeated two or three times. He was altogether laid up in bed for several weeks and it was noticeable from the first that he always lay half turned on the right side, never flat on his back or on his left side. This fact was rather curious seeing that the right lung was alone expanding. Exactly at what interval after his admission I am uncertain, but probably three or four weeks, I noticed on examining the back of the chest a series of *striæ atrophicæ*, limited entirely to the right (sound) side, and extending more or less transversely from the level of the eighth or ninth dorsal spine to the top of the iliac crest. I can only give the levels approximately from memory. I think that they were caused by the constant stretching of the skin owing to his decubitus, described above. He was always propped up with several pillows, and resting on his right scapular region above and his right sacral region and buttock below, so that the intervening skin was always stretched into a curve with the convexity downwards and backwards. There was not a trace of any striæ on the left side, although the chest had been much distended with fluid. I think it is probable that some of the cases in which these arise on the back and other parts after various illnesses, such as typhoid fever, etc., may similarly be due to continued strain on the skin from particular postures in bed."

A PLEA FOR THE RECOGNITION OF A COMMON ORIGIN FOR SHINGLES AND CHICKENPOX.

BY W. P. LE FEUVRE, M.R.C.S.,

Bulawayo, Rhodesia.

BETWEEN January in 1913 and January in this year I took notes of seven cases of chickenpox in children, following shingles in one of the parents. Three of these cases occurred in my own practice and the others I came across accidentally, although they were connected to a certain extent with my own cases.

CASE 1 (January, 1913), was the case of a farmer's wife living ten miles from a railway station. The shingles eruption extended from the left shoulder to the wrist, was preceded by the customary neuralgic pain for about a week, and within fourteen days was followed by chickenpox in a daughter, aged 10 years.

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