ON
URTICARIA PIGMENTOSA
OR
XANTHELASMOIDEA.

URTICARIA PIGMENTOSA (SANGSTER),
U. PERSTANS PIGMENTOSA (PICK),
XANTHELASMOIDEA (TILBURY FOX).

BY
THOMAS COLCOTT FOX, M.B.,
PHYSICIAN FOR DISEASES OF THE SKIN TO THE WESTMINSTER HOSPITAL,
AND ASSISTANT PHYSICIAN TO THE VICTORIA HOSPITAL
FOR CHILDREN.

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THIS rare affection was noticed first by Mr. Nettleship in 1869, but his brief description entirely escaped attention until after Mr. Marrant Baker and Dr. Tilbury Fox had exhibited cases to the Clinical Society in 1875. In the following year (1876) the eruption was met with by Dr. Albert Morrow, of New York, under the name *Erythema tuberculatum with unusual features*. With regard to the exact nature of the affection considerable uncertainty has existed. Mr. Baker, notwithstanding the persistence and inactivity of the eruption in his case, inclined to regard it as *urticularial* in nature, although Dr. Thin, from subsequent microscopical examination of the lesions, concluded that the morbid changes were indistinguishable anatomically from the earlier lesions seen in *lupus*.

In the case of the boy Edward Cornell, shown by Dr.

Tilbury Fox, the eruption was probably more marked and intense than in any other, with the exception perhaps of Dr. Morrow's. The "nodules" resembled those of xanthelasma so closely in appearance, and in the implication of the eyelids, penis, and palate, that Dr. Fox came to the conclusion there was "clearly a deposit of buff-coloured stuff in the skin," and he suggested the term *Xanthelasmoides* for the reason that, to quote his own words, "acute general xanthelasma would roughly describe the disease in my cases; but if it be thought that the disease is like, yet not the same, as xanthelasma, I should be disposed to term it *Xanthelasmoides*." Dr. Fox subsequently adhered to the opinion that though there was an urticarial element present the eruption was not urticaria.

My objects in bringing this subject before the Society this evening are:—(1) To present the notes of an additional case; (2) to trace the history of Dr. Tilbury Fox's three original cases down to the present time, *i.e.* over a period of about ten years each; (3) to furnish the results of a microscopical examination of the eruption, as seen in the boy Edward Cornell; and (4) from the examination of the nineteen cases which have so far been recorded, to draw conclusions as to the nature and course of the affection.

The following unpublished case was sent by Dr. Probert to Dr. Tilbury Fox in August, 1877. The boy was then eight months old, and the surface generally was studded more or less with eruption. According to the mother's statement, they noticed on the child at the age of five or six weeks "distinct little blisters," which gave place to brownish-red raised patches. The eruption subsequently appeared as copper-coloured blotches under the skin. The mother thinks they commenced on the head and forehead, and later spread between the shoulders and over the back and trunk generally by the time the child was three months old. At eight months the face was certainly only very slightly involved.

In May, 1878, *i.e.* at sixteen or seventeen months of

age, the surface was thickly sown with slightly raised, congested, coarsely granulated spots and with pigmentary stains, mostly discrete, oval, or rounded, and the size of a split pea, but many larger and irregular from confluence with an ill-defined outline. The flanks were much affected, the abdomen and upper extremities moderately, and the legs increasingly so. Fresh lesions, which had recently appeared on the forehead and face, were more hyperæmic than the older ones, and had distinctly an urticarial element; a little later they become like erythema papulatum only with a deeper, duller red tint. The colour and amount of irritation they gave rise to, however, varied, for when quiescent for some time they acquired a brownish or buff-coloured tint, and were but little itchy, but if irritated—for instance, by rubbing—they get hyperæmic and itchy. When the skin was irritated by washing, &c., white wheals arose. The mother suffers from urticaria, but there is no struma and no phthisis on either side, and the father's family is an exceptionally healthy one. The child under consideration also is fairly healthy, as are his brothers and sister. It may be mentioned, however, that one had spurious jaundice on the third day after birth. In 1880 the eruption was in about the same condition.

With regard to the three cases recorded by Dr. Tilbury Fox in the Clinical Society's 'Transactions' for 1875, I have to state that they have been under observation now respectively for eleven, ten, and nine years. Dr. Brodie kindly informs me that he frequently sees one boy, and the eruption has almost entirely disappeared. A second boy, now nine years old, I saw in March of the present year. He is fairly healthy and well grown, but slightly choreic. On the limbs, trunk, and neck, but especially the legs, are large, irregular, tawny-olive stains, with an ill-defined outline. They cannot be made to assume an urticarial condition by any amount of rubbing. Since 1878 fresh very irritable spots (almost certainly urticaria) have appeared from time to time "when the child was out of sorts," but they have long ceased to leave stains on

their disappearance, and the old raised eruption and the majority of the stains have quite gone.

The third case I show here to-night, and for comparison with the boy's original condition I hand round the water-colour drawing which was executed when he was a small child.

The boy is distinctly more pallid and less well grown than the rest of the family, though on the whole in fair health. In 1878, *i.e.* five years after the first observation, the eruption was slowly declining in intensity, for the lesions were getting smaller and less numerous. The older ones readily assumed the urticarial condition, however, on being rubbed. From that time the eruption evolved less copiously year by year, and many old stains disappeared, so that at the Congress in 1881 the difference in the appearance of the patient was very striking to those who had seen him in 1875. Nevertheless, a wheal-like eruption still continued to appear from time to time, but it was noticed that the majority of them disappeared pretty quickly and failed to leave the stains they formerly did. At the present time nothing but old stains are to be seen, and these evidently are slowly fading. The mother states that the boy often complains of itching and pricking, and when she looks to see the cause, a wheal is observed which comports itself as an ordinary urticaria.

I will now proceed to briefly summarise the results derived from the examination of the records of nineteen cases. Of these fourteen were boys, four girls, and in one the sex was not mentioned. The eruption was noticed in the first six months of life; in three or four instances in the first few days of existence. It is variously described, in the language of the mothers, as commencing with "white bumps," "watery blisters like scalds," dull red patches, pink spots, and white spots surrounded by redness. Ordinary wheals have been stated to co-exist with the special eruption by those who make a distinction between the two. Some have looked upon all these primary eruptions as undoubtedly urticaria, whilst others have hesitated

to pronounce a definite opinion. With our present knowledge it seems impossible to doubt that the eruption is urticaria, at any rate, it has a marked urticarial element in it. The special wheal-like lesions evolve suddenly without prodromata and may be more or less irritable.

It is a marked peculiarity of the eruption that the hyperæmia is more lasting than in an ordinary urticarial wheal, so that the lesions remain for a long time incompletely subsided, that is to say, the effused fluid is more or less absorbed, but still the area remains hyperæmic and somewhat raised, with the skin in wrinkles as if permanently stretched, just as we see it sometimes in cedema of the skin from dropsy. Whilst in this condition the urticarial state is easily lighted up again by rubbing the spot and probably by emotional disturbance. In the more intense conditions the wheal-like lesions become considerably raised as if there was a marked cellular or other infiltration or some organisation of new tissue; they acquire a firmer feel than normal skin, and the surface gets corrugated, or more or less granular, probably from the fact of the follicles or the attachments of strands of fibrous tissue bending down the stretched surface here and there. Dr. Morrow marked such nodules with indelible ink and found that they remained stationary for one to three weeks and then subsided into pigmentary macules. This brings us to speak of the second peculiarity, viz. that in both the phases just described there is added a yellowish or brownish pigmentation irremovable by pressure, which, added to the redness, gives the peculiar colour to the eruption. This is easily observed by pressing out the congestive redness, and when the latter disappears of its own accord a long persistent stain is left. There is some doubt how this pigmentation is brought about, whether by a breaking up of escaped red corpuscles or owing to some special tendency to the deposit of pigment, which is one of the peculiarities of the affection. I take, with Dr. Goodhart, the latter view, as I find that the rete is undoubtedly much pigmented although signs

of breaking down of red corpuscles are also apparent. It is to be noticed that the pigmentation in this affection is far more persistent than that which is noticed on the disappearance of an erythema multiforme, lichen planus, or a syphilide. As to the degree of rapidity with which the deposit takes place, more precise observations are necessary. In shape the eruption is primarily round or oval in outline, and the size is variously described as "uniformly that of a three-penny piece," a pea to a kidney bean, mostly a large pea to an almond, pea to a ten-cent piece, pea to a shilling, and end of cedar pencil. Larger and irregular eruptions or macules are formed by confluence. As the macules gradually get fainter the usually good definition of their borders is lost, and where they are very numerous, a mottling of the surface is produced. Thus in some cases there is a considerable variety of appearance met with in the lesions present. Generally the eruption is evolved with much itching, or continues irritable; but occasionally this is not a marked feature or is less noticeable after a time. As to the site the eruption occupies, no cutaneous region is exempt, but the trunk is early and prominently affected and next the limbs. It may evolve over the neck and face and even up the sides of the scalp in severe cases. The palms and soles are very rarely affected, and in the two most severe cases on record, the palatal and buccal mucous membrane was implicated. The affection seems to invariably pursue a chronic course by the evolution of the eruption singly or in crops, and the macules formed in this way may become so numerous in course of time as to occupy on the trunk and limbs as extensive an area as the intervening normal skin. The affection reaches its climax of intensity in infancy or early childhood, and after a variable period the evolution of eruption becomes less and less, and the urticarial or wheal-like lesions, if the latter term is preferred, gradually lose their two peculiarities of long persistence and pigmentation. The complete disappearance of all the stains has not yet been observed in any case, although the

near approach of this condition is evident in Dr. Tilbury Fox's three cases about ten years of age. In one of Pick's cases also the eruption had ceased to evolve at ten years of age, and Lewinski met with the eruption still well marked, but not very active, in a boy of eighteen years. The affection is not hereditary and is not dependent on any tuberculous, strumous, or syphilitic taint, nor is there any evidence forthcoming of any affection of the liver. The subjects of it are fairly healthy but perhaps not very robust, and the only point of importance is the excessive sensitiveness of the cutaneous vaso-motor apparatus as shown in the frequent occurrence of *factitious urticaria* and the lighting up of the older lesions by any emotional disturbance or derangement of the health.

The eruption was examined microscopically by Dr. Thin in Mr. Baker's case, and from the character of the cell-infiltration, its disposition, the gradual destruction of the gelatinous tissues, &c., he concluded that the morbid changes were indistinguishable anatomically from the earlier changes seen in lupus, whilst "from all other morbid processes which take place in the skin" it could be distinguished. That he thought it actually a phase of lupus appears evident from his remark that "it is impossible to resist the conclusion that had the child lived some of the affected parts would have ulcerated." We know now, however, that there is no tendency whatever to ulceration, but that the lesions subside spontaneously without leaving any scarring. Pick, of Prague, in a case which Lewinski hesitates to accept as genuine, removed a bright yellow, well-defined, oval wheal-formation, 8×3 mm., from the thorax. The sections disclosed little rust-brown hæmorrhagic centres embedded in the upper layers of the cutis, and surrounded by small cell-infiltrations. The papillæ were enlarged and the epidermis normal. It appeared to Pick that the pigmentation resulted partly from the long-continued hyperæmia and partly from hæmorrhagic exudation. In the central parts only the effects of the latter were noticeable, in the halo both.

Obstruction to the lymph-flow is suggested as another factor in the persistence of the lesions. When the boy Cornell was seven years old, I removed from his back, with the assistance of Dr. Bulkley, of New York, an old-standing, large, firm, raised, buff-coloured nodule, which I had made urticarial by rubbing, and hardened the specimens in chromic acid and alcohol. My sections display the formation of a typical wheal. A low power (Fig. 1) shows the fact that the morbid changes are limited to the upper third of the corium over circumscribed areas constituting the raised eruption seen on the surface of the skin. The changes reach their maximum in the centre of the area and subside somewhat suddenly peripherally, and in depth just above the level of the sebaceous glands. The changes are uniform over the involved area, and under a low power appear as a rarefaction of the upper corium tissues with moderate cell increase scattered about uniformly. Under a high power (Fig. 2) it is seen that the epidermis is unaffected except that it is somewhat thinned from stretching, and that its lowest layer has a great excess of tawny pigment. *The tissue of the upper part of the corium is rarefied to the last degree.* Long strands of fibrous tissue radiate upwards from the deeper unaffected parts to be attached to processes of the rete, and from these fibres others branch and join to form a coarse network, the meshes of which are again divided and subdivided by delicate fibres and branching cells (see Fig. 2). These finer meshes contain a goodly number of cell-elements of different sizes and shapes, from mere nuclei to cells resembling white blood-corpuscles. Here and there capillaries, apparently of larger diameter than usual, are met with, but they are not prominent. Where the œdema subsides towards the periphery, larger blood-vessels come into view surrounded by rarefied tissues containing an increase of cells, and here and there little collections of golden pigment; and in these regions largely dilated lymphatics are seen. There is no thrombosis of the veins. The sweat-ducts and hair-follicles run down through this

FIG. 1.—Vertical section. $\times \times 75$. *a*. Sweat ducts. *a'*. Sweat coils.
b. Hair follicles.

FIG. 2.—Vertical section of a portion of Fig. 1. $\times \times 300$. Showing the rarefaction of the œdematous corium.

tissue apparently unaltered to the equally unaffected sweat and sebaceous glands. I cannot make out any organisation of new tissue. The condition here met with is, indeed, only that brought about by prolonged œdema of the skin and corresponds closely to Renaut's description of urticaria in Cornil and Ranvier's pathological histology. Cell exudation was not very marked in my specimens, and certainly was not more than might be expected. Histologically, therefore, there is no doubt of the urticarial nature of the lesions.

The clinical difficulties in the way of at once recognising the eruption as a phase of urticaria are, (1) the rapid onset of pigmentation, which we have already discussed, and (2) the long persistence of the wheals. The existence of chronic urticaria in infancy and childhood is everywhere acknowledged, and in the affection formerly known as *lichen urticatus*, we have an urticaria presenting other special features. With regard to the pigmentation, I will only add the significant fact that Sangster in his case noticed the deposition of pigment in the factitious linear wheals excited by scratching in the great flexures. The persistence of wheals (*urt. perstans*) much beyond the ordinary time is not unknown though of rare occurrence. No allusion, however, is made to any special pigmentation (see for cases Willan and Bateman, A. T. Thomson, Tilbury Fox in 'Lancet' for March 8th, 1879, and Pick in the 'Prager Zeitschrift für Heilkunde,' 1881). Lastly, a most interesting case bearing on the subject was shown at the Congress in 1881 by Dr. Liveing in the person of a girl, aged about sixteen years, who suffered from mild urticaria for about a year and a half, and in whom the wheals, which were not noticed to be specially persistent, appeared to leave marked pigmentary macules which remained after the cessation of the urticaria.

I append in a tabular form a summary of all the recorded cases that I have been able to find.

TABULAR SUMMARY OF CASES.

No.	Reference to case.	Age of onset.	Sites affected.	Description of eruption.	Complications.	Family history and general health.	Remarks of recorder, &c.
1	♀ <i>Nettelship, Brit. Med. Journ.</i> , Sept. 18, 1869, p. 323	3 months	At 2 years the pigmented spots thickly covered the neck and trunk, more sparsely the extremities, and slightly the forehead and margin of the scalp	Began as white "lumps" like the sting of a nettle, itching severely, and leaving brown stains on subsidence. At 2 years of age there were present: (1) non-raised brown stains, and (2) slightly raised from a little attendant congestion. Size uniformly that of threepenny-pieces. No red wheals at this observation, although subsequently a number of erythematous and elevated patches were seen	A scratch with the finger produced in a few moments the ordinary urticarial wheal	—	—
2	♂ <i>Morrant Baker, Clin. Soc. Trans.</i> , vol. viii, 1875 (with plate)	6 weeks	First appeared on the back, and soon covered other regions; face affected last. At 19 months old very generally distributed; most profuse on back, rather less on scalp, face, and arms; none on palms and soles, and none near anus. Mucous membranes unaffected	Mother says the spots first appeared as small red pimples, which got larger. When first seen by Mr. Baker, Sept., 1874 (aged 13 months), there were papules and tubercles from a pea to a kidney bean, some nummular, some irregularly-oval; in some parts irregular wheals or patches from confluence of tubercles, 2-8 inches diameter, and raised about as much as severe urticaria, but smooth and flattened, feeling rather tougher than healthy skin. <i>Have</i> dependent on varying degrees of congestion in different parts of the body, yellowish or yellowish-pink to decided pink or dull red. The yellowish spots do not fade on pressure, but the pink do <i>itching</i> only slight and occasional. The tubercles become urticarial on being rubbed. There was no material alteration until the death of the child when just over 3 years old. Fresh eruption had apparently ceased to evolve	—	Father and mother healthy. Child born at full term, well grown, all ways strong and well. One other child fairly healthy	Mr. B. says the difficulties are very great in grouping this affection with anything but <i>urticaria</i> , yet the persistence and inactivity of the eruption are unlike nettle-rash. This child died of erythema, under Dr. E. B. Baxter's care, in March, 1877, at the Evelina Hospital, and then the eruption was in <i>stadium</i> , the tubercles assuming a <i>galea</i> , resembling Dr. Thunberg's <i>Soc. Trans.</i> , vol. x, 1877 examined microscopically the eruption, which was visible after death, and he concluded that the morbid changes were indistinguishable anatomically from the earlier changes seen in lupus.

No.	Reference to case.	Age of onset.	Sites affected.	Description of eruption.	Complications.	Family history and general health.	Remarks of recorder, &c.
3	Edward C. Tilbury Fox, <i>Clin. Soc. Trans.</i> , vol. viii, 1876; and the present paper: place in <i>Atlas of Skin Diseases</i>	6 weeks	Appeared first on inner side of left thigh, then back of neck, and then the trunk. After 5½ months' duration the whole surface, including the scalp, penis, and hands and feet, were affected. The <i>mucous membrane</i> of palate and mouth was involved. In July, 1878, only the scalp, and palms and soles were exempt; the face was less affected than the trunk and limbs, where the eruption was exceedingly thick	Mother described the earliest eruptions as looking like "scalds," and she states that she could let water out from the "watery blisters." These original lesions persisted 3½ years for years. When first seen as an infant, in May, 1873, the surface was almost covered with buff, coloured nodules interspersed with newly formed dull red blotches, and with pale fawn-coloured and slightly elevated patches, left in their turn by the subsidence of the nodules. In size they varied from split-pea to shilling or more, but very many were size of large pea or size and shape of almond. In colour, a dull red or dusky copper at first, gradually getting buff, some occasionally pearly looking. In <i>consistence</i> elevated. Surface uniform in some, but in most indistinctly marked, with a congeries of smaller projections, probably due to impaction of follicles, giving a granular appearance. Recent lesions often very much. In July, 1878, there were to be seen only dull brownish-yellow patches in size from a split-pea to a five-shilling piece, the latter irregular from confluence. These macule are not raised now, and the red congestive hue is absent, except on the penis, where nodules are seen the size of the kernel of a hazel-nut. The appearance of the eruption is therefore very different to what it was five years previously. The lesions, however, acquire a distinctly urticarial character when briskly rubbed. The evolution of lesions has been comparatively infrequent for some time. They come out as nettlerash." In Aug., 1881, the wheals still continued to appear now and then, leaving stains. In Jan., 1883, nothing but macule are to be seen, far less numerous and less deeply stained than formerly. The affection is evidently dying out. The boy often complains of itching and pricking, and when the mother looks she sees ordinary nettlerash. The wheals, however, are more evanescent, and do not appear to leave stains now	—	Father's family healthy; marked phthisis on mother's side. Child born at full time, and nothing particular about the labour, but it was never thrived after birth. The other children, who are all healthy, were not so closely like him as this one. Dr. Fox came to the conclusion there was "clearly a deposit of buff coloured stuff in the skin," and after insisting on the essentially capricious and temporary character of urticaria, he added, "I think, on the whole, that acute general xanthelasma would roughly describe the case in my cases; but if it be thought that the disease is like, yet not the same as xanthelasma, I should be disposed to term it <i>xanthelasma</i> ." For microscopic examination, see present paper.	Good; no liver disorder; no constitutional
4	Dr. Brodie's	6 weeks	Trunk and limbs, and slightly on the face	When first seen as a baby in the summer of 1872, the eruption was altogether less marked and extensive	—	—	—

case. ♂ <i>Tisbury</i> <i>Fox</i> , <i>Clin. Soc.</i> <i>Trans.</i> , 1875, vol. viii, and <i>Atlas</i>	10 days	Trunk and limbs, most on chest, very few on the face	than in Cornell's case, although the description of that case generally would apply to this. There was no pruritus. The eruption appeared as dull red patches, retaining colour and elevation for a long time, but eventually subsiding into tawny macules. At Christmas, 1874, the spots were disposed to lose elevation, and to assume a lighter colour. Jan. 4th, 1883, Dr. Brodie frequently sees the boy, and the spots have almost entirely disappeared	"Still has nettle-rash occasionally" (note at 4 years old). The child constantly flushes from excitement or after food, and then the macules redden and get irritable. At 9 years old still subject to nettlerash	A blue-eyed, fair-haired boy, well grown and, though by no means robust, healthy. A peculiar and persistent hoarseness suggested hered. syphilis. Father died suddenly from unknown cause when a young man. Mother and her family are phthisically inclined; she had severe and frequent floodings before the baby's birth, Mar., 1883, distinctly nervous temperament; hoarseness has quite disappeared	stitutional symptoms; no syphilis in parents, who are both healthy	In former notes of this case it was stated that some brown patches existed on the head and back at birth; but the mother is positive (T. C. F.) that the nurse drew her attention about ten days after the birth to irritable spots, which she now identifies with nettlerash.
5 Dr Hebblethwaite's case, ♂ <i>Tisbury</i> <i>Fox</i> , <i>Clin. Soc.</i> <i>Trans.</i> , vol. viii, 1876; also <i>Atlas</i> and <i>present communication</i>	6 months	At 2 years old the spots covered the face and entire body, but most abundant on back and over flexures of joints; a few on palms and soles. The reddish spots appeared first on the back and chest, and soon the entire body was	When first seen at 4 months old, in June, 1874, the eruption consisted of coppery, raised, granular patches, much as in Cornell's case. Jan. 1878, "better in every way." A fresh spot only now and then since first outbreak. There are numerous light mahogany-coloured patches and blotches over the body, from the size of a pea to a halfcrown, with an irregular but well-defined border, not raised now, and quite smooth. In March, 1883 (the boy just 9 years old), large, irregular, tawny-olive stains exist on limbs, trunk, and neck; especially marked on legs. They do not assume wheal aspect on rubbing. Fresh spots, with much irritation, have appeared from time to time when the child was out of sorts, but leave no stain now	Has "hives" when the stomach is disordered, subsiding in 2-3 days. Urticaria attacks occur about once a week in warm weather, but far less frequently in winter; they	Well nourished, healthy-looking child; youngest of nine healthy children; never jaundiced	This case was exhibited to the New York Dermatological Society in Oct., 1876, for an opinion as to its nature, on account of its unusual features. It was called <i>Erythema tuberculatum</i> . I pointed out to Dr. Bulkeley in 1878 that it was probably a case of urticaria pigmentosa, and Dr. Morrow	

No.	Reference to case.	Age of onset.	Sites affected.	Description of eruption.	Complications.	Family history and general health.	Remarks of recorder, &c.
			covered with a persistent eruption. At 4 years old the entire surface of the head (except the superior portion of the scalp, the bridge of the nose and malar prominences), the trunk and limbs were covered. The mucous membrane of the palate and fauces were affected, but the hue of the eruption here was not yellowish	irregular in outline, as if from fused tiny nodules, elevated, in size from a coffee grain to an almond; when recent pinkish or bright red, and later becoming yellow or brownish; firm to touch. Some looked solid, as if containing lardaceous material. They developed suddenly, and <i>always</i> after an attack of urticaria; remained stationary for a time, and then rapidly subsided; average duration, 1-3 weeks, but sometimes longer. At 4 years old only 2 or 3 nodular masses were seen, but great increase in number of pigment spots, which coalesced on trunk into mottled eruption, losing their definite form. Colour from pink to yellowish-brown, deepening to livid red if skin is rendered hyperæmic; on the trunk a dash of green in them; on the forehead pale and indistinct. Mostly elevated, and overlying skin in loose wrinkles. Others less elevated seen studded with small flattened papules. The eruption irritable	are excited by irregularities of diet, emotions, &c. Similarly intense hyperæmia of the skin occurs. The skin is remarkably sensitive, and the slightest irritation produces wheals, <i>e. g.</i> exposure to air		afterwards published an elaborate account of the case with able comments. This severe case appears to bear a closer resemblance to that of Corneli than any other recorded. The nodular masses were a very striking feature in this case, especially in its earlier stages, and Morrow suggests their production by thrombosis of the lymphatic vessels preventing the escape of effused serum. He thinks each pigmented patch was probably the seat of a nodular swelling, and in answer to the question whether any once formed pigmented patches had ever disappeared, he says probably in course of time.
7	Caroline T. Barlow, <i>Clin. Soc. Trans.</i> , x, 1877	3 to 4 months	First on chest. At 13 months old, when first seen, front and back of chest and belly, front and back of arms, forearms, thighs, and legs, and the face. At 3 years old the hands and feet were still free	Uniform, brownish (with a dash of olive) pigmented patches, very slightly raised, in size from pea to shilling; unaltered during the year whilst under observation. One or two wheel-like eruptions occasionally seen. Never any ulceration	Said to be subject to flea-bites from early infancy but Barlow never saw any true flea-bites. A scratch will bring out a <i>bond fide</i> wheal, and so will simple handling some-times. Rubbing would always excite wheals from infancy	Phthisis in father's family, and two brothers of child died of acute tuberculousis. The patient never had jaundice, but she is tuberculous and suffered from a crusted ulcerating impetiginous eruption about the head and neck. No syphilis	"It must still remain a question whether recurrent vascular disturbances of the skin are not a factor in their causation."
8	C. F. <i>Stains</i> first noticed at		The mottled red rash first appeared on abdomen, soon extending to almost cover	A coarsely mottled, red, irritable rash, gradually becoming browner in colour, <i>i. e.</i> buff-brown and buff-red. Some isolated, but for most part shaded off and blended with neighbouring macules. In	Ordinary urticarial wheals were seen from earliest infancy, but	Healthy-looking, well-nourished boy. Attacked with jaundice (?)	"It may be conjectured that the disease . . . is caused by vaso-motor changes in the skin, either occurring

9	<i>Clin. Soc. Trans.</i> , vol. xi, 1878 (with plate)	2 months old, but urticaria earlier	the trunk. At 2 years old the mottling had extended to the extremities; thickened back, abdomen, and sides; the surface in later regions almost uniformly brown; also backs of arms and forearms; loins and buttocks least affected; face (except right cheek slightly), scalp, backs of hands, palms and soles free; big flexures (where scratching is most vigorous) specially affected	the big flexures brown patches are in lines, parallel with the natural folds of the skin, and following scratching apparently. Some patches faintly raised, but no infiltration of the natural textures. The skin only a little coarser over the patches. The buff-red patches lose red element on pressure. At 2 years old the older patches on abdomen had lost red colour and become browner	left no stains at first, according to the mother's statement; they were excited by any irritation, especially scratching, and this tendency was marked throughout; simple handling brought out wheals, Sangster saw linear and other wheals resulting from scratching whilst examining the child	spurious) before a week old, which lasted a fortnight. Another child, who died at the age of six weeks, said to have been jaundiced. No abnormal stools; no bile or sugar in urine; no syphilis in father or mother. Psoasitis in family	spontaneously, or set up by external causes. . . . The vaso-motor changes are possibly connected with functional liver disturbance; at any rate they have a tendency to become permanent and lead to further pigmentary changes."
9	Frederick P. <i>Barlow</i> , <i>Clin. Soc. Trans.</i> , vol. xi, 1878	9 weeks	About a dozen spots first on chest, belly, back and upper arms; gradually he became covered over these regions. At 8 months old, trunk, especially the back, the thighs, and arms, neck, and the temples where the hair began, and the hair way into hair a little way into hair	Some of first crop of spots "were like large blisters, red all round," and they were irritable. At 8 months old, when first seen, brownish-drab, rounded areas, the size of end of cedar pencil, many confluent; finely granular surface and slightly raised, more so on the trunk	The boy was ready to scratch his trunk directly it was exposed. Had "white blister-like spots" (? wheals) come out from time to time. "It is always easy to produce a band of hyperemia by a scratch, and this band often shows a wheel-like line along its centre." Occasionally an ordinary wheel was to be seen	Bright, active child, with no sign of visceral disease. Father and mother healthy. No syphilis. Child never jaundiced. Some constipation. Another child healthy	—
10	Eather B. <i>Goodhart</i> , <i>Med. Times and Gaz.</i> , Feb. 1, 1879	5 months	When first seen, aged 7 months, greater part of trunk involved, chiefly stomach and back; arms, less on lower extremities; back of head, ears, and round neck; none on face, hands, or feet. First appeared on abdomen	At first small, irritable, whitish elevations, surrounded by a reddish blush. The lesions continued to appear as urticarial wheals for the 4 months whilst under observation. The white elevations have a reddish halo; they quickly acquire a livid brownish staining, and subside into persistent, deep brown, rather sharply defined, slightly raised, rugose, non-indurated, round, oval, or irregular patches, or semi-organised wheals	Not due to flea-bites	"Perfectly healthy looking child." No syphilis, no jaundice	The pigmentation "erases so rapidly after the appearance of the wheal, as to make it probable there is some peculiar tendency in this child to the deposition of pigment on slight irritation of the skin." Dr. Goodhart has seen other cases, to which he briefly refers.

No.	Reference to case.	Age of onset.	Sites affected.	Description of eruption.	Complications.	Family history and general health.	Remarks of recorder, &c.
11	Solomon G. <i>Pye-Smith, Gray's Hosp. Reports, 3rd ser., vol. xvi, 1880-1</i>	3 months	Under observation, at 2 years old, greater part of back, chest, abdomen, and adjacent parts of arms and thighs, hands and feet covered with the papules; head and neck free	Rather large, discrete, yellowish-brown papules. Two or three fresh wheals seen, with erythematous infiltration around	—	—	Sent by Dr. Goodhart to Dr. Pye-Smith. Rash not affected by teething.
12	Alfred P. <i>Carey, Lancet, May 8, 1880, vol. i, p. 739</i>	14 days	Commenced on back and thence quickly spread over trunk. At 15 months old, when he came under observation, lesions largest and most numerous over the back and chest; fewer but larger on abdomen; many over buttocks, upper and lower extremities (except palms and soles); smallest on neck, sides of face, and temples; 2 or 3 large ones over occipital and parietal bones	Said to have commenced as flat red patches on which blisters formed. Urticaria bullosa and crusting seen occasionally. At 15 months old, large, rounded or oval, flattened patches varying in colour from bright or dull red, with a tinge of yellow, to orange or pale buff. The red colour depends on different degrees of hyperemia, which varies according to situation and age of the lesions. Pressure removes the hyperemia and leaves a buff stain. No itching except after mechanical irritation. Shape rounded or irregularly oval, some are more or less parallel to the transverse folds of skin, and slightly raised. Most lesions are barely if at all raised; their texture is a trifle coarser than normal skin, but there is no infiltration. An urticarial condition is revived in the lesions by irritation but not easily in the stains	Spurious jaundice soon after birth (urine and feces normal). Wheals often present, especially around neck and waist, and seen by rephitis in family. Linear wheals can all be excited by scratching. Crying and struggling increases hyperemia of lesions	Born at full time; fair haired; general health excellent throughout, well nourished and robust at 15 months. No syphilis and no phthisis in family. Another child healthy. Parents healthy	Shown at Harveian Society, April 1, 1880. Under observation 3 months.
13	A. F. <i>Stephen Mackenzie, Med. T. and Gaz., April 24, 1880</i>	3 days	At first over chest, stomach and back, and subsequently spreading slightly to neck, inner side of thighs, and to forearms, when first under observation at 15 months old	At first non-irritating, large, dark brown, non-elevated patches in the skin, many larger by confluence. Since evolution persisted unaltered or a little paler. At 15 months old buff, or buff and pink, slightly raised islets, from a pea to irregular patches size of sixpence. They become raised and redder by rubbing	Not specially bitten by fleas, &c. Any irritation, such as scratching or weal, excites urticaria	Healthy-looking child, born at full term; never jaundiced. No syphilis in family. Rest of children healthy	Dr. M. supposes by <i>dark brown</i> the mother probably meant <i>red</i> , as is often the case amongst the poor. He considers the affection undoubtedly <i>urticarial</i> in nature, and the buff colour to be produced by diapedesis of coloured blood-corpuscles during the wheal stage, and subsequent disintegration and staining of the skin.

14	Sex ? <i>Stephen Mackenzie, Hunterian Society's Reports, 1880-1</i>	3 days	When first seen, at 16 months old, eruption limited to the trunk, back, and front, the neck and upper part of thighs	First appeared as red spots, and persisted ever since. No irritability in the skin till the last month (15 months old). At 16 months buff-coloured raised patches, becoming urticarial when scratched, and subsiding into buff patches in about 15 minutes	A small bulla seen in one place	—	—	There must be a certain amount of hyperplasia of tissues to account for the persistent swelling.
15	G. F. Q. aged 8 years. <i>P. J. Pick, Prager Zeitschrift für Haidtunde, 1881</i>	6 weeks	—	It was stated that the affection commenced with a well-marked, raised, wheal-like eruption, which persisted a long time and left a discoloration, and was ushered in by fever. Similar outbreaks were repeated at longer or shorter intervals, but never so long but that the discolorations left by former wheals remained. No febrile disturbance accompanied the later outbreaks. Itching was violent in first attacks, but absent later on so that fresh eruptions were only noticed by the aspect of the skin. This state of things continued until August, 1879, when the child, then aged 8 years, was first seen by Pick. In September, 1881, the evolution of eruption had ceased, but rounded, elevated, and flattened brown-red spots, 3-5 cm diam. remained, either uniformly coloured, or with the central part brownish red and the periphery shaded off into other brownish or yellowish tints. Pick observed that the evolution of the eruption was rapid, and followed sometimes on a slight pressure of the skin, but resolution was long delayed, for they were still raised after 2-3 weeks, leaving in 6-8 weeks a brown-yellow spot. Never any scaling or pus formation	—	—	Father well made and healthy; mother died after birth of a 6th child of purpural septicaemia; other children fairly healthy. No tuberculous. Patient (2nd child) well developed, fair haired, blue iris, and little general pigmentation	—
16	K. G. ♂ <i>P. J. Pick, Prager Zeitschrift für Haidtunde, 1881</i>	A few days after birth	Back, breast, abdomen were thickly sown, extending later, but to a less degree, on upper extremities, and sparsely to lower limbs; slight on the face	Pick repeatedly traced the formation of the eruption thus:—A hyperemic spot, 3 to 5 cm. long, appeared suddenly (often upon uncovering the surface) and with great itching, which, however, soon subsided. Its centre became rapidly the seat of an oval wheal, $\frac{1}{4}$ to $\frac{1}{2}$ cm. long by 3-5 cm. wide, and raised 1-3 mm. This central part was darker coloured than its halo, and firmer. By the continued evolution of such eruption the surface of the skin became covered. When first seen in Aug., 1880, at 7 months old, the skin of the body,	—	—	Well-developed fair-haired boy, with grey irides; anemic; general health fair till contracted varicella at 15 months old	"No cause lying outside the organism can lay claim to its origin." Pick removed a bright yellow well-defined oval wheal formation, 8 mm. $\times$ 3 mm. from the right side of thorax. Sections disclosed little rust-brown hemorrhagic centres embedded in the upper layers of the cutis, and surrounded

No.	Reference to case.	Age of onset.	Sites affected.	Description of eruption.	Complications.	Family history and general health.	Remarks of recorder, &c.
17	<p>♂</p> <p><i>Lewinski, Virchow's Archiv, Bd. 88, 1882</i></p>	5 weeks	<p>First appeared on abdomen, and at the age of 9 years had gradually extended over the whole body, including the soles of the feet. At 18 years old, however, palms and soles free</p>	<p>especially the back, was covered with more or less pigmented spots of two kinds: (a) hyperemic red macules (not raised), from which a certain amount of hyperemia disappeared on pressure at the periphery, and left a brown discoloration in the centre; (b) a preponderance of raised wheal-like formations, not painful, firmer than natural, $\frac{1}{4}$ to 1 cm. diam., of a sulphur-yellow to bright orange colour; colour, bearing the closest resemblance to xanthelasma, not disappearing by pressure. Between the colours here mentioned all shades were seen significant of blood extravasation in the skin. No signs of scratching; no desquamation; no pus formation</p>	<p>Violent itching from earliest childhood, and a special sensibility to cold, so that he always sat in by the fire. In his youth he suffered from cold hands and nose, and chilblains. With any medium access of warmth, however, he became scarlet and swollen in the face. Urticarial wheals were easily pro-</p>	<p>Healthy parents and five healthy brothers and sisters. Patient always strong and well. Urine normal</p>	<p>by small cell-infiltrations. The papillae were enlarged, the epidermis normal. It appeared that the pigmentation resulted from long-continued hyperemia on the one hand and from hemorrhagic exudations on the other. In the central part the hemorrhages were seen apart from the effects of long-continued hyperemia, in the halo both together. Pick surmises that obstruction to lymph-flow is another factor in the persistence of the wheal. Lewinski expresses a doubt whether this was a genuine instance of what has been described as urt. pigmentosa.</p>
			<p>The mother relates that first a nodule, the size of a three-penny-bit, was seen, followed by other similar ones near, and also having vesicated summits, and of very short duration (a few days), leaving pigment spots of a very persistent nature. The eruptions felt firm to the touch and quickly disappeared, but there was a recrudescence of some spots. At 9 years old nodules appeared similar apparently to the others, but not leaving stains. The stains gradually became paler on the face and upper arm, but elsewhere did not alter. The patient came first under observation at the age of 18 years, and then similar eruptions were appearing. At this age his skin was covered with lentil-sized, or rather larger, rounded or oval spots, disseminated, unaltered by pressure, and pale yellow, on face, neck, and extremities, but numerous, a little raised, and confluent on trunk, especially chest, where they form a coloured net-work, enclosing small islets of normal skin. On the back</p>				<p>Under observation for a few months until the patient left Berlin. Treated internally with atropine and externally with a 1 per-cent. solution of carbolic acid with some amelioration.</p>

18	<p>♂ Lewinski, Virchow's Archiv, Bd. 88, 1883</p>	4 months	<p>First on breast and back. At 18 months old the whole body covered, including the face</p>	<p>they were in lines corresponding to course of ribs. The raised spots were easily flattened by pressure of finger, but the swelling returned with removal of pressure. Their yellow or slightly pinkish colour, when quiescent, turned to scarlet when irritated, and they finally subsided into the yellow stains. Scarlet wheals with a white centre were often seen, and his mother recognised these as similar to those which first appeared in infancy</p>	<p>—</p>	<p>Merry, healthy, well-developed boy, sprung from healthy family</p>	<p>Reported from Herr Joseph Meyer's clinic at Berlin.</p>
19	<p>H. Dr. Proper's Case, from Notes by Tilbury Fox</p>	5 to 6 weeks	<p>Commented on head (?) and forehead, next between shoulders and on back; and over trunk generally at 3 months old. In Aug., 1877 (aged 8 months), when first seen, the surface generally was affected, but mostly the trunk; the face but little. In May, 1878 (aged 16-17 months), abdomen slightly affected, flanks freely covered, legs very much so</p>	<p>The mother's statement is that at first "distinct little blisters" rose up, which gave place to brownish-red raised patches. The subsequent eruption appeared as copper-coloured blotches under the skin. In May, 1878, the surface was thickly studded with slightly-raised, congested spots and pigmentary stains, mostly the size of a split pea, some few being larger, and many still larger by confluence, closely set but still distinctly separated by intervening healthy skin. Fresh lesions, which had just appeared on the forehead and face, were redder than the older ones, and urticarial, or like erythema papulatum, only a deeper, duller red. The colour and degree of irritation, however, varies, for if quiescent for some time they acquire a brownish tint, and are but little itchy, whilst if irritated they assume the urticarial type. Some spots were rather pigmentedary stains, but most were raised and buff coloured, with a granular surface</p>	<p>White wheals arise whenever the skin is rubbed</p>	<p>Mother has urticaria; father's family exceptionally healthy. No strums; no phthisis. Child fairly healthy, and so are other children. One had spurious jaundice on 3rd day after birth</p>	<p>Dr. Tilbury Fox adhered to his view that the eruption was not really urticaria, although an urticarial element was present, as may be illustrated in the case of <i>Roseda urticata</i>.</p>