the red cells shown in the curve. Dr. Hurst wrote (February 18th, 1926):

"The average size of the red cells is increased, so that there is the megalocytosis which is characteristic of Addison's anaemia.

We find not infrequently that in the early stages this is the only evidence of Addison's anaemia—a general examination pointing to quite normal blood or slight anaemia of a secondary type, but I believe the megalocytosis is conclusive evidence."

Presumably the interpretation of the case is that, owing to the absence of hydrochloric acid, his intestines became infected with some germ which is capable either of producing the haemolysis of pernicious anaemia or of causing the degenerative changes in the spinal cord. Probably the sexual exhaustion was a factor in deciding the incidence on the spinal cord; for doubtless our medical forebears had good reasons for attributing tabes to sexual excess before its syphilitic nature had been ascertained.

Treatment.

He had four teeth extracted, and massage. He drank half a pint of hydrochloric acid three times a day after food, and must continue to do so all his life, as the deficiency is doubtless congenital. Its strength is 5 drachms of dilute hydrochloric acid to the pint of sweetened water. He had twenty-four hours' fresh air every day for four months; besides sunshine, he had two hours a week of ultra-violet rays from three carbon arc lamps running at 30 per cent. over pressure, according to my system.¹ To the latter he himself largely attributed his cure. I find that they nearly always make a medical patient feel better—which is half the battle won. Hence they are a very useful addition to a general medical ward.

After a month or so in hospital he gradually improved, and walked after fifteen months' illness. His gait is now brisk, with only a hint of spasticity. He looks well, can run, and has been at work for three months clambering about ships. His legs and finger-tips still tingle. Haemoglobin is 100 per cent., sensation is normal, and the knee-jerks have returned, but the extensor plantar reflex persists.

"When once these cases are bedridden improvement is unusual"; so that his recovery is remarkable, and is due, I think, to the hydrochloric acid. Hitherto a case of this kind would be foredoomed to Addison's anaemia. It will be interesting to see if the hydrochloric acid habit will save him from this fate—of which he has been warned.

REFERENCE.

¹ BRITISH MEDICAL JOURNAL, October 3rd, 1925, p. 613.

HABIT FORMATION IN THE BLOOD VESSELS OF THE SKIN.

BY

P. B. MUMFORD, M.D., M.R.C.P.

SUPERFICIAL blood vessels appear to possess a property of retaining for a variable period an altered sensibility to stimuli, whether internal, external, chemical, thermal, mechanical, or nervous. A vessel by the constant use of its power of contraction or dilatation may acquire the habit of so responding to the same degree when the stimulus is lessened or when another form of stimulus is supplied. Hypersensitivity may remain in a skin vessel for a considerable period after the application of the original stimuli. Certain phenomena demonstrate these peculiar properties, but in mentioning them it should be realized that the alteration of reaction is not always specific and that there may be an altered response to other forms of stimuli.

A. Mechanical Stimulation.—When an area of skin is subjected to a pressure of about 2 lb. by stroking with a round bobbin of wood the vascular changes, active and passive, which follow will disappear within a few minutes. If the skin be now immersed in hot water it will be found that the line of the stroke reappears as an area of more marked erythema than the surrounding skin. The line represents an area of hypersensitivity. The line shows also a much slower return to normal.

B. Thermal Stimulation.—Prolonged exposure of the skin to heat will often leave vessels very responsive to stimulation. A stoker who had been accustomed to wear a singlet which covered the lower chest and abdomen showed a very marked response to dry and moist heat; the response was especially deep over the exposed areas. Similar excessive vascular dilatation is to be found in many other persons who make a continual demand on the skin for heat excretion power. Hyperthyroidic individuals flush up very freely in heat. One of the "excuses" generally given for the morning cold bath is that by exposure of the body to a sudden cold medium the arterioles and capillaries of the skin are taught to react quickly and actively. By the phrase "acclimatization" is meant the adjustment of the superficial blood vessels to changed surroundings and changed metabolic level.

C. Chemical Stimulation.—When an area of skin has been chemically irritated there may remain for a considerable period an oversensitiveness of that area even though all trace of lesion has gone.

A woman who had had a severe fur dermatitis on the neck returned in three weeks with severe irritative dermatitis over the same area of skin; apparently it had followed the exposure of the neck to very cold winds. After this had settled down she again had a severe relapse over the original areas due to the use of carbolic soap. In each case the relapse had followed the exposure of the whole face and neck, and yet the only portions of skin affected were those which had been left in a hypersensitive condition by the original fur dermatitis.

D. Infective Stimulation.—The skin around areas of mild inflammation (acne follicles, pustules, etc.) shows a more marked response when subjected to mechanical irritation than do the intervening areas. For example, in a case where there had been a bromide eruption the areas where there had been lesions developed an urticarial response when they occurred in the path of a heavy flat stroke stimulus. When the whole body was immersed in warm water the areas of injury stood out as points of deeper erythema. Patients suffering from acne rosacea will often volunteer the information that a heated room causes the sites of disease to reappear after their apparent cure. This apparent manifestation of "habit" cannot altogether be explained as due to the fact that areas of infection are of higher temperature (Lewis), since they are found when all traces of disease have disappeared. The temperature change may, however, explain the development of wheals over patches of acute seborrhoea when the whole skin is rubbed or heated. A simple experiment to show that after the subsidence of infection there is some change in vessels is found in the warming of the skin of a person who has just recovered from impetigo: the areas are shown up as of deeper erythema mapped out on the unaffected skin.

E. Nervous Stimulation.—After the complete disappearance of all signs of the eruption of herpes zoster in a young man, areas where lesions had been present were found to remain excessively active in their response to heat stimulation. Urticarial papules may reappear frequently at one point of the body, and the mildest of external or internal stimulation may be sufficient to cause whealing—for example, a mosquito bite on the hand of a middle-aged medical man left such a sensibility for at least eight years; the least provocation, such as temporary ill health or overwork, will cause the lesion to become irritable and raised. Darwin has noticed that blushing will occur in areas which are the subject of constant thought. He quotes the example of a pianist with rather ungainly hands who blushed from the mid-forearm downwards whenever hands were mentioned or even when he thought of them. Blushing can certainly become a vascular habit.

F. Light Stimulation.—In Finsen's original experiments on the effect of light on the skin he noted that even after six months' absence from stimulation by light the areas when rubbed showed an increased response to stimulation. This phenomenon is often seen in those who have been sunburnt and who have returned to normal colour. Heat, mechanical, and even emotional stimuli may be sufficient to cause the reappearance of the erythema originally produced by the light.

Conclusion.

It should be realized that continuous dilatation of capillaries and arterioles if persisted in will produce a paralysis of vessel wall, for all contractility to cold and mechanical stimulation has been lost. The acquisition of healthy vascular habit on the part of the blood vessels of the skin which are liable to lose tone or capacity for response is made use of in the alternate hot and cold douching employed in the treatment of pernio. There is an experimental basis for such treatment, and especially so if pernio be regarded as merely an exaggerated physiological response in an unbalanced individual.

The most important conclusion to be drawn from the above remarks is that vessels can acquire a "bad habit." We have a rational basis for regarding relapses in certain forms of skin trouble as being due to a non-specific sensitization. This is of marked legal significance when considering capacity for work of persons who have suffered from "trade" dermatitis.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

INTERMUSCULAR LIPOMA OF THE CALF.

A LIPOMA may take origin from almost any structure in the body, but an interesting example may yet be sufficient to arrest the attention of readers.

A married lady, aged 41, for eleven years had watched the progressive increase in the circumference of the calf of the right leg; her anxiety increased in direct proportion to the rate of fashionable change in the length of ladies' skirts, though the limb was not rendered unsightly or misshapen; apart from an obvious diffuse enlargement of the calf the contour of the limb remained that of the normal one. The greatest circumference of the affected limb exceeded by six inches that of the opposite.

Lipoma, one-third actual size

Pain and stiffness on movement were entirely absent. Elevation of the limb did not decrease the swelling, but it hardened with contraction of the calf muscles, indicating that it either involved the muscles themselves or was covered by those structures. There was increased resiliency in the affected calf as compared with the other. X-ray examination showed no bone changes, but the outline of the tumour was distinctly seen. With the provisional diagnosis of lipoma, operation was advised.

Through a curved incision on the medial aspect of the calf the gastrocnemius and soleus muscles were displaced laterally and a large lipoma was revealed lying between the superficial and deep groups of muscles; its pedicle arose from the interosseous membrane. The tumour after removal measured 7 by 5 inches and weighed 1½ lb. It had been moulded, presumably by the tension and action of the muscles, so as to preserve to perfection the normal configuration of the calf.

The patient made an uninterrupted recovery; but the circumference of the affected limb was still one inch more than that of the normal one, due most probably to two factors—oedema and hypertrophy of the muscles.

I have to express my indebtedness to Professor E. W. Hey Groves for permitting me to publish this case.

JOHN J. ROBB, M.C., M.B., F.R.C.S. Ed.,
Assistant to the Professor of Surgery, Bristol University,
and Surgical Registrar, Bristol General Hospital.

CARCINOMA OF THE HEART.

I WOULD like to put on record a case of primary squamous-celled carcinoma of the wall of the left ventricle of the heart.

An old woman, aged 77, was admitted to the Tooting Bee Mental Hospital on August 28th, 1925, and died on December 25th, 1926, after suffering for five to seven days from hypostatic pneumonia. She was a typical case of senile dementia and ran a very common course for that condition. The heart was not suspected, but at the *post-mortem* examination a large white tumour, about the size of a hen's egg, was found in the anterior wall of the left ventricle. The whole of the alimentary tract was searched for a primary lesion, and a suspicious piece of lung and of cervix uteri were sent with the tumour to the Metropolitan Asylums Board research and pathological services. The pathologist reported that the heart tumour was a typical squamous-celled carcinoma; the cervix afforded no evidence of any tumour, and the lung presented some bronchopneumonia. To the naked eye the tumour showed some degeneration towards the centre.

London, S.W.

THOMAS LINDSAY, M.D., F.R.C.S. Ed.

APPENDICULAR COLIC ASSOCIATED WITH TUBERCULOUS PERITONITIS SIMULATING ACUTE APPENDICITIS.

The following unusual case seems of sufficient interest to merit publication.

A lad, aged 13, when admitted to the Booth Hall Infirmary, Manchester, had for twenty-four hours complained of severe abdominal pain. The onset was sudden; at first it was over the navel, but later it settled in the right side above the groin. He had vomited several times, and the bowels had not acted for two days. There was no history of a similar attack. He had been coughing for several days. The abdomen was rigid and tender, the tenderness being most marked in the right iliac fossa; McBurney's point was hyperaesthetic. The temperature was 101.2° F., the pulse was 104, regular and full, and the respirations 18. A simple enema was given, and the return contained a trace of faeces; no flatus was passed. Digital examination of the rectum showed considerable tenderness on both sides of the pelvis.

A diagnosis of acute appendicitis was made, and it was decided to operate. Ether was given by Pinson's bomb. A right paramedian incision was made, the rectus muscle being pulled outwards instead of inwards. The peritoneum contained a small quantity of fluid. The appendix appeared to be quite healthy, but the mesentery was studded with tuberculous glands of rather recent origin. I removed the appendix and closed the abdomen. The lumen of the appendix was filled with threadworms.

The patient made an uninterrupted recovery from the operation, but a little later he complained of severe abdominal pain. Masses of enlarged glands were palpable in the abdomen. The temperature was hectic and the bowels costive. He began to vomit after meals, but I came to the conclusion that the pain and vomiting were due mainly to a neurosis. Suggestion was first tried as a cure, with only partial success; but the vomiting ceased entirely, and the pain became much easier after the patient had been shown and told the use of a stomach-tube.

Several months in bed on a balcony facing a large park, together with daily treatment with the tungsten arc lamp, have been beneficial; but the mesenteric glands have greatly decreased and his general condition greatly improved since the exhibition of tuberculin emulsion. He was sent to a sanatorium to complete the cure.

No threadworms were detected in his stools while he was in the infirmary.

GERALD RALSTON, M.R.C.S., L.R.C.P.

Booth Hall Infirmary, Manchester.

MENINGITIS AS A COMPLICATION OF PREGNANCY.

MENINGITIS in pregnancy is said to be rare, but it seems to occur often enough to merit consideration in the differential diagnosis of eclampsia. During the last twelve months I have treated the following cases in the North Evington Infirmary, Leicester; both present points of interest.

CASE I.

Mrs. S., multipara, aged 26, whose previous health had been good, complained of a very severe headache for a week previous to admission, and, on the evening before admission, a commencing left-sided facial palsy was noticed by her doctor.

Examination showed that she was full-time pregnant, but not in labour. The pupils were dilated and the reaction to light was lost. There was slight but definite paresis of the left side of the face and some loss of power in the left arm. No classical signs of meningitis were present. The temperature was 102.6° F., respirations 44, pulse 124. A catheter specimen of urine measuring 18 oz. was acid, high coloured ("febrile"), and contained a faint trace of albumin. On lumbar puncture the cerebro-spinal fluid was seen to be very cloudy, and bacteriological examination showed the presence of the pneumococcus in pure culture.

Five hours after admission the condition was obviously hopeless. Quinine was administered; the os dilated manually, and a live