—blood pressure is the important factor. This is what one would expect. In cases of tuberculosis, in which the blood pressure is low, indicating poor power of resistance, we may presume that sufficient antibodies are not being formed, and the patient demands and responds to the stimulating action of the tuberculin. When the blood pressure is higher probably sufficient antibodies are being formed, and therefore there is less need for, and consequently less response to, tuberculin.

On the other hand, we would not expect the vaccine for colds to influence tuberculin antibodies, but we can suppose that a patient who is intolerant to a small dose of tuberculin will be also intolerant to a much larger dose of another vaccine. It seems unlikely that the brand of vaccine has much influence. It is probably a question of dose. Since I have reduced the initial dose of the vaccine and proceeded more cautiously the results have been much better. But this takes time. Instead of completing the course in three or four doses I now take eight to twelve or more. If time permits I prefer to treat these cases with tuberculin, as it appears to me that in cases thus treated immunity to colds is more lasting.

Conclusions.

Vaccines for colds should be used with caution in the tuberculous if there be a tendency to sensitiveness to tuberculin. The initial dose should be smaller than that usually given, and rapid increment of dose should be avoided.

A STRIKING CASE OF CHICKEN-POX SIMULATING SMALL-POX.

CHARACTERISTICS WHICH DISTINGUISHED IT.

BY

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A CORRECT decision in a case of this nature is so vitally important to the public, to the patient, and to the practitioner, that a note may be convenient to repeat the pathognomonic criteria which pointed with complete certainty to the true nature of the disease.

E. L., aged 19½ years, was seen in consultation with Drs. Alexander and Dunlop, to whose courtesy I am indebted for these notes. An initial point of interest always lies in the answer to the question, "What aroused the suspicion of small-pox?" It was the facial appearance in this case. About 80 lesions on the face, some papular, some vesicular, some becoming pustular—many of them hard and "shotty" as felt against a bony background—strongly suggested small-pox, a suspicion which was heightened by abundant raised hard lesions felt in the hairy scalp; which, of course, were also palpated against a hard background. And certainly, regarded from a short distance, the lad's appearance instantly brought small-pox to mind, strongly simulating as it did some of the milder cases seen in October, 1922, in that same neighbourhood (Poplar). How, then, could the grave suspicion of small-pox be confirmed or dismissed?

It is seldom that such a case cannot be completely and easily cleared up by the use of the following four heads of cross-examination, after a general inspection of the patient has been made.

1. *What was the local and general distribution of the rash?* A rapid approximate count of the spots was made and noted within five minutes, the patient sitting up (a) stripped to the waist, (b) in a good light. Ridicule has been poured on this method of observation, apparently on the ground that clinicians should not reach their results by rule-of-thumb addition and subtraction. What such a count does, however, is to compel close observation, heighten accuracy, quicken and shorten record, and save a deal of talk. This patient's spots showed as follows:

Right hand 1; left hand 0.
Right forearm 25; left forearm 21.
Right arm 45 to 50; left arm 45.
Right axilla 3; left axilla 8.
Pharynx 8, including 2 on the posterior pharyngeal mucosa,
and 2 on the right anterior pillar.
Face about 80.

Front of chest and abdomen about 120.

Lower extremities: Spots not counted, but they were remarkably numerous on both shins, about 20 to 25 spots on each; and it was observed that this area was the seat of lesions of chronic eczema. As is well known, the rash of chicken-pox occasionally favours irritated surfaces of the skin, but to a much less extent than that of small-pox.

2. *What was the character of the lesions of the rash, regarded generally?* In these last words lies the corrective observation to that of the facial lesions. Chicken-pox spots on the comparatively coarse skin of the face of an adult, judging from hundreds of cases, often give rise to difficulty and are apt to mislead. On the contrary, on the fine skin of the thorax and abdomen the truth is usually displayed to demonstration. It was so in this case. In the folds of the flank there lay lesions elongated, having crinkled outlines, with flaccid envelopes, containing scanty fluid, measuring about 8 mm. by 4 mm. Rolled in a fold of the skin picked up between the finger and thumb they were palpably superficial; their long axes were seen to lie parallel with the direction of the natural creases of the skin. A noteworthy observation was that on the left shin were two frank vesicles, freshly distended, and faintly yet unmistakably umbilicated; this was verified with a powerful electric torch and magnifying lens. No hair was visible at the centre of these slight umbilicated vesicles as sometimes happens, nor was the phenomenon due, as is also sometimes the case, to a pseudo-umbilication arising from the pellicle of a burst pustule falling in. Such umbilication as was present was occurring during the height of vesiculation as in variola, and was apparently due to the same cause—namely, the incomplete severance of strands of connective tissue crossing the cavity of the vesicle and tying it across interiorly.

3. *What constitutional signs and symptoms were present?* especially what had been the degree of prostration before the rash came out? Nil, was the answer to all of this.

4. *To what extent and at what rate had maturation progressed?* This is a most useful point of cross-examination, especially apt to be helpful to diffident and inexperienced clinicians. This rash came on a Monday; it was observed on Wednesday and Thursday. By that time it was fully vesicular on the legs—unusual, but not entirely unknown, in small-pox; and in various localities of the skin development had progressed to the point of pustulation. Could that have happened in a case of small-pox with a well developed rash? It is unlikely; and the further development of the rash would emphasize this point.

Consider: the development of the rash of small-pox may be diagrammatically shown thus:

Day.	
1)	—— Papular.
2)	
3)	—— Vesicular.
4)	
5)	
6)	—— Pustular.
7)	
8)	

And yet we have full vesiculation and even pustulation on the third and fourth days of this case. A well developed rash of small-pox very rarely develops to this extent in this period of time.

The Diagnosis.

How, then, do we stand in respect of the evidence derived under these four heads? No. 1 points strongly in favour of chicken-pox; so do Nos. 2, 3, and 4. There is hardly any evidence against it. Verdict for chicken-pox; that diagnosis, indeed, being unquestionable and undeniable.

It happened that in this case there was still further evidence, if any had been needed. But it was evidence that it is unwise to be in the habit of relying on. It is very strong if present, and gives, as it were, the help of a crutch to weak muscles; but if it be habitually relied on, woe betide the clinician who finds himself completely deprived of it. He is then at a great loss. This lad, as was testified by his mother and himself, had undergone primary vaccination at the age of 15, four years previously; and the four scars on his arm testified to his variolous immunity.

In these days, when lay criticism of, and intrusion into, delicate medical findings is apt to be pronounced and overwhelming, it may be well to be reinforced, as regards the critical public duty of small-pox diagnosis, with clinical methods which have stood the test of experience; which are simple to remember, simple and quick to apply, simple in interpretation, yielding results which are correct, easily recorded, convincing, and permanent for subsequent reference by means of observations, every repetition of which materially fortifies and heightens a sound and correct judgement.

FRACTURE OF THE ODONTOID PROCESS AND PARTIAL DISLOCATION OF THE ATLAS WITHOUT COMPRESSION OF THE CORD.

BY

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Cases like that described below are so unusual that, when they occur, it is desirable to place them on record.

R. W., a labourer, aged 50, during a gale last autumn was struck by a falling tree. The force of the blow was sufficient to knock him off his feet, but he did not lose consciousness.

On my arrival at the scene of the accident he was standing supported between two of his mates and was able to give a lucid account of the occurrence.

A wound 9 inches long stretched across the frontal eminence and extended from one temporal region to the

FIG. 1.

FIG. 2.

FIG. 3.

FIG. 1.—Normal outline. The anterior surface of the odontoid process, body of axis, and third cervical vertebra lie in a slightly curved line; the anterior arch of the atlas lies entirely in front of this line.

FIG. 2.—Radiographic tracing from "R. W." The anterior arch of the atlas and odontoid process are displaced backwards.

FIG. 3.—Outline of atlas, odontoid process, and transverse ligament, the non-rupture of which preserved the cord from injury.

A, Anterior arch of atlas. B, Transverse ligament. C, Odontoid process. D, Body of axis. E, Third cervical vertebra.

other. The scalp was hanging loose, leaving bare a considerable portion of the vertex, which was contaminated with mud. There were also small cuts on the nose and occiput.

He was removed to the local hospital, where his wounds were cleaned and sutured under an anaesthetic. As he complained of pain and stiffness in the region of the neck, he was kept lying perfectly flat with the head fixed between sandbags.

His wounds healed without suppuration, but the pain and stiffness in the neck persisted. Six weeks later, however, he was so far recovered that he could be moved for x-ray examination. This showed the anterior arch of the atlas and the axis to be displaced backward. No line of fracture could be made out, but there was abundant formation of callus and union was apparently satisfactory.

At present, ten weeks after the accident, the patient is able to get about without any retentive apparatus. The movement of rotation is very limited and is accompanied by pain and a clicking sound, due to alteration in the line of pressure of the articular facets of the atlas on those of the axis.

I have to thank Mr. B. Dyball, F.R.C.S., for his kindness in allowing me to use his report on the x-ray examination.

A NOTE ON RECURRENT LARYNGEAL PARALYSIS.

BY

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PARALYSIS of the vocal cord following operations on the thyroid gland occurs, I think, much more commonly than is supposed. The reason why it is so often overlooked is that in many cases it causes no symptoms or disability, and I have frequently seen cases in which nothing whatever was suspected either by the patient or the surgeon, and yet examination showed a vocal cord either quite motionless in the cadaveric position, or with the power of abduction entirely absent.

This lack of symptoms (alteration of voice, etc.) is to be accounted for by the rapidity with which compensation by the other vocal cord is achieved. In some cases it is almost instantaneous, in others it may be delayed for a varying period. Often in this latter group, if careful inquiry is made, there is evidence of slight huskiness, but this is often put down to the anaesthetic or a cold, and in most cases usually passes off within a week.

When we come to inquire into the reason why the vocal cord is so often affected after operations on the thyroid (such as hemithyroidectomy or tumours involving the lateral lobe) a possible explanation may be found in the mode of distribution of the recurrent laryngeal nerve. About an inch before it enters the larynx it breaks up into a leash of branches, usually two main ones and several smaller filaments; of the latter, two are usually constant and go to the thyroid gland and the beginning of the oesophagus. The larger of the main divisions enters the larynx by piercing the inferior constrictor just behind the articulation of the inferior cornu of the thyroid with the cricoid. This is the muscular branch. It should also be mentioned that branches of the inferior thyroid artery run mainly with the filaments of the nerve. When the lateral lobe of the thyroid gland is manipulated by the surgeon it is practically impossible to avoid pulling on the filaments of the recurrent laryngeal nerve, and in some cases the muscular branch must be stretched round the inferior cornu of the thyroid cartilage somewhat like a piece of string across the edge of a door. The main trunk of the nerve is, I think, seldom much disturbed.

Again, as cut branches of the inferior thyroid are picked up with artery forceps some filaments of the nerve may be damaged and others stretched. I believe that this stretching of the muscular branch is often sufficient to put the vocal cord out of action.

The recurrent laryngeal nerve is curiously vulnerable. I remember one case in which it was held aside with a retractor during an operation, and the vocal cord was paralysed and remained so for nearly a year. During the war an officer was shot through the neck by a machine-gun bullet at Kut-el-Amara. His vocal cord was paralysed by this simple concussion of the nerve, and it was more than a year before the mobility of the cord was fully restored. These and many similar cases were under my own observation at frequent intervals.

In a large majority of cases I have no doubt that the vocal cord completely recovers, but there remains a percentage in which the damage is permanent. That the nerve may be initially damaged during an operation can be demonstrated by watching the vocal cord with the direct laryngoscope, until the moment occurs when it is paralysed, often with dramatic suddenness.

It is outside the scope of this note to discuss the technique of operations on the thyroid gland and their respective merits; suffice it to say that it is within my knowledge that alteration in technique designed to avoid stretching the branches of the recurrent nerve has in certain instances produced markedly improved results with regard to the vocal cord.