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.—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.