TREATMENT OF A CASE OF DEPRESSED FRACTURE OF THE SKULL CAUSED DURING BIRTH.

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I was called on January 25th to see Mrs. F., aged 28, in her sixth confinement. At her first confinement and her third she had chloroform, and her children were born alive and uninjured, but she does not know whether instruments were used on these occasions. Her second labour was tedious; the child was born dead, but its head was injured; no instruments were used. Her fourth labour was only a little prolonged, and a healthy female child was born uninjured. Her fifth labour, twelve months before, was a case of placenta praevia, delivered by version, between the seventh and eighth months. On the present occasion labour had been going on for fourteen hours, and the nurse in attendance reported that progress had ceased. The os was fully dilated. The head was presenting in the left occipito-anterior position, and seemed fairly well fixed in the brim. Flexion was well marked. I delivered with axis-traction forceps. There was considerable resistance to traction at first, then something seemed suddenly to give way, after which the head and trunk were easily delivered. The diagonal conjugate of the pelvis was roughly estimated to be 4 in.

On the child's head there was a deep almost circular depression, measuring 2 in. antero-posteriorly and $1\frac{1}{2}$ in. across, in the left frontal bone; its posterior and internal margins were at the corresponding borders of the bone, the angle of the latter at the anterior fontanelle being slightly tilted up. The anterior margin of the depression lay $\frac{1}{2}$ in. from the supraorbital ridge. I endeavoured to raise the depression by Dr. J. Munro Kerr's method, placing the child's head between my knees, and with one hand on its right frontal bone and the other on its left parietal posteriorly, making strong compression in the diameter of the head at right angles to that in which the depression lay, but this produced no change. The child did not appear to be suffering in any way from the effects of the injury.

On February 17th, twenty days after birth, as there was no spontaneous improvement visible, the child, who was showing no symptoms, was operated on in the Glasgow Maternity Hospital. I made an incision 1 in. long through the scalp, beginning just external to the anterior fontanelle and running parallel to, and $\frac{1}{2}$ in. in front of, the left coronal suture, and then cut through the bone in the same position by a lateral rocking movement with a sharp scalpel. An angled periosteum elevator was now inserted and passed forward between the bone and the dura mater; injury to the latter was avoided by making the incision in the bone $\frac{1}{2}$ in. away from the suture to which it is adherent, as recommended by Dr. Jardine. The point of the elevator was brought under the centre of the depression, and by tilting it upwards the inner portion of the bone was raised without difficulty, a sound and sensation being produced as if a dent in a celluloid ball were being pushed out. The outer part of the depression, however, had not come up, and when the point of the elevator was moved out to get under it, it was felt to slip out from under the bone and to lie immediately below the scalp. There was then recognized to be a fracture of the bone running antero-posteriorly and situated rather in the outer half of the depression. The point of the elevator was got under the outer fragment which was also raised, but not so completely as the inner fragment, as the position and size of the incision in the bone prevented a proper manipulation of the instrument. Had the incision been begun a little further out along the coronal suture doubtless this difficulty would not have been experienced. There was very little bleeding, and the scalp wound was closed with two stitches. The area where the depression had been was now flat. Four days later the scalp wound had healed well, and the area of former depression had risen spontaneously and become convex to such an extent that although the head was shaved hardly any difference was noticeable in comparison with the right side, except a slight ridge which was visible where the outer margin of the depression had been. The child was seen a week later, quite well, but no further change in the skull had taken place, and the small difference between the two sides remained.

The operation was practically a subcutaneous one, and could easily be done immediately after birth, without fear of infec-

tion from the skin, in cases where the depression could not be raised by other means, and where it was giving rise to respiratory or other symptoms. The failure of compressing the head immediately after birth in this case to raise the depression might, I think, have been taken as strong presumptive evidence of the presence of a fracture, although it was not otherwise detected, because Dr. Munro Kerr has found that in ordinary depressions his method is almost invariably successful; and, as the late Dr. Milne Murray suggested when the method was first described, in cases of fracture the lateral pressure is more likely to drive the angle in the bone at the line of fracture inwards than to force it out.

THE GLYCOGEN REACTION IN BLOOD:

ITS PATHOLOGICAL AND DIAGNOSTIC IMPORT.

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NATURE OF THE REACTION.

The reaction which I wish to describe is one which has been known for a good many years. Ehrlich described it in pus in 1883, and Gabritschewski studied it in numerous blood conditions in 1891. It fell out of sight, however, and it is only within the last two or three years that it has again been made use of to any extent. This has been due mainly to Kammer, Czerny, and Weiss on the Continent, and to Dunham, Locke, and Cabot in America. In this country little attention has been paid to it. It is to Locke that the credit is due of having most exhaustively studied it and placed its application on a firm basis. Since his paper appeared I have applied it to all the cases whose blood I have examined, and to many earlier cases of which I had preserved films, and I have found his conclusions hold good on almost every point.

The method is extremely simple. The solution employed, which serves for fixing, staining, and mounting, is composed of

Iodine, 1 gram; iodide of potash, 3 grams; distilled water, 100 c.cm., with enough gum acacia or gum arabic added to make the fluid of a syrupy consistence.

The bottle must be kept tightly corked as the iodine evaporates and the staining is weakened. A rather large drop of this solution is placed on a clean slide, and an ordinary air-dried blood film on a cover-glass lowered on to it, allowed to remain undisturbed for half a minute to allow of complete staining, and then displaced towards one end of the slide in order that the thick layer of fluid may not cut off too much light in examination; or the surplus fluid may be removed with filter paper. The gum soon sets and the preparation will keep for weeks, or sometimes longer, though it slowly fades. The film of blood should be thin, as the reaction is much more easily studied if the leucocytes are flattened out.

The specimen is at once ready for examination, and this must be done with an oil-immersion lens and a good light—daylight for choice—but if that is not available, with the whitest light obtainable. The light from an incandescent gas burner is satisfactory. An ordinary high power will usually allow one to make out well-marked reactions, but not fainter ones, and should therefore not be used. Other methods have been devised both of staining and mounting, but after a careful trial of them all I have returned to the original method as most satisfactory.

In a film of normal blood treated in this way the red corpuscles are stained yellow on a white or faintly yellow background, the white corpuscles of a much fainter lemon-yellow tint. The lymphocytes, indeed, can hardly be distinguished from the background, except by the slight difference in the refractive index of their nuclei. Eosinophiles can at once be recognized by the high refractive index of their granules, and the polymorphonuclear neutrophils always look rather darker than the others because of their closely-set granules. In none of them, however, should there be the faintest trace of red or brown. In normal blood this colour is only seen occasionally in the masses of blood plates which are scattered about the films. The amount of this "extracellular" glycogen varies greatly in different cases. The only disease in which it seems to be uniformly increased is diabetes, in all other conditions it follows no ascertained law, and it is, therefore, always disregarded.

The appearance described is regarded as a "negative"