intrathoracic pressure more when the lung is free than in cases where it is bound to the chest wall by adhesions or adherent pleura. It will also have a greater effect if the mediastinum is freely movable.

Position of the Thoracic Viscera.

By making an x-ray examination of the patient in various positions it is possible to judge to what extent the mediastinum is movable and also to see exactly where the lung is held up by adhesions and where the visceral pleura is in contact with the chest wall but not actually

FIG. 1.

FIG. 2.

FIG. 3.

FIG. 4.

FIG. 5.

adherent. Fig. 1 shows a case of artificial pneumothorax with the patient in the recumbent position. Fig. 2 shows the same patient in the erect position, and it will be seen how great is the difference in the position and shape of the lung.

Effusion in the Pneumothorax Cavity.

Of course fluid is freely movable in these cases, and it can readily be shifted by making the patient lie on one side (Fig. 3), if it prevents a good x-ray examination of the diaphragm or base of the lung, as in Fig. 4; or if he is active and sufficiently well he may stand on his head, when the fluid will gravitate to the apex and a clear view of the base will be obtained by x rays (Fig. 5).

My thanks are due to Dr. Stanley Melville, who took the skiagrams from which these tracings are made.

REFERENCE.

1 Lawson, J.: Notes on the Intrapleural Pressure in Artificial Pneumothorax, BRITISH MEDICAL JOURNAL, 1922, 1, 309.

A CASE OF TUMOUR OF THE BRAIN WITHOUT SYMPTOMS.

BY

SYDNEY SMITH, M.D., D.P.H.,

PRINCIPAL MEDICO-LEGAL EXPERT, EGYPTIAN GOVERNMENT SERVICE.

THE case here recorded has a certain clinical interest and is of some importance from the medico-legal point of view.

An elderly male Egyptian was knocked down by a motor car whilst crossing the street, and was removed to hospital in a semi-conscious state.

On admission the pulse was 100, the pupils equal and reactive to light, there was no Babinski sign, and the deep reflexes of the legs were exaggerated. There was paresis of the left arm and spasticity of the other three limbs. The cerebro-spinal fluid was found to be of normal tension and was discoloured with blood.

The patient gradually got worse, and died five days after admission without regaining consciousness. His temperature gradually rose to 38.4° C. before death, and his respirations rose from 24 to 38 per minute.

On dissection a bruise was found in the temporal muscle above the right ear, and under this a linear fissure in the skull running forwards and downwards into the middle fossa and terminating in the right sphenoid bone. There was about 1 c.cm. of clotted blood between the dura mater and the bone in the region of the crack. The dura was thickened and adherent. The brain was intensely congested and the pia arachnoid looked blood-stained, although no actual extravasated blood could be observed. The brain was not damaged on the side of the injury, but on the opposite side there were two lacerations—one the size of a shilling on the left temporal lobe where it rested on the petrous temporal bone, the other about half the size towards the temporal pole adjacent to the small wing of the sphenoid. There were no other signs of violence, nor haemorrhage into the brain substance. On section, however, two tumours were found in the right hemisphere—one situated in the anterior part of the Sylvian fissure where the horizontal and ascending rami take origin, the other situated at the end of the sulcus temporalis superior in the gyrus angularis. Neither of these tumours could be seen on the surface, but on making serial horizontal sections the following relations could be ascertained.

A. The anterior tumour had no distinct boundaries, it took origin between the pia mater and the arachnoid, invaded the brain substance forwards into the frontal lobe and upwards into the pars triangularis, and reached the white matter of the middle temporal gyrus. The anterior extremity reached the roof of the anterior horn of the lateral ventricle. The grey and white matter of the island of Reil, the claustrum, and the external capsule were destroyed in their anterior half. The tumour touched the anterior extremity of the lenticular nucleus and destroyed the lateral part of the internal capsule at the level of the head of the caudate nucleus. Above the level of the basal ganglia there were several small cavities, one of which was 5 mm. in diameter.

B. The posterior tumour consisted of a well defined cheesy mass measuring 1.5 by 2 cm. and was enclosed in a capsule. It destroyed the grey matter of the angular gyrus and invaded the white matter as far as the forceps major.

On microscopical examination both tumours were found to be of syphilitic origin, invading the brain substance from the pia arachnoid. In and about the tumours the blood vessels showed intense infiltration with lymphocytes, and the brain tissue adjacent to the vessels was in a state of softening. The cavities mentioned above showed degeneration of the brain substance with a neuroglial wall and with a similar condition of the vessels around them.

From the clinical aspect the presence of such extensive invasion of the brain by tumours without apparent symptoms is rather a remarkable feature, and an effort was made to obtain the previous history of the victim. He was, unfortunately, an old man who lived by himself, and we could obtain no information about him except that he had been in a "debilitated" state for about three months, but used to look after himself without assistance and was able to lead an apparently normal life. We could not ascertain from his relatives or neighbours whether he had complained of any symptoms, and presumably he had not.

From the medico-legal aspect the case is important in that it shows that a person may be walking about leading an apparently normal life while suffering from an advanced disease of the brain. When an individual so suffering is the victim of an accident such as this person sustained the question of responsibility must arise, and it is at least an open question whether the central lesion did or did not play a part—first, in causing the accident, and secondly, in leading to a fatal issue after the accident.

We can readily understand that lesions of this extent might at any moment cause an oedema of the brain which might lead either to loss of consciousness or to loss of co-

ordination, and either cause the victim to fall under the car or prevent him from getting out of its way. After such an accident it might easily be believed that an injury to a brain already the seat of advanced disease was more likely to be fatal than would a similar injury in an ordinary brain.

A final point of some interest is the relative position of the site of injury and the position of the so-called contrecoup lesions. The blow struck the head just above the right ear, whereas the two contrecoup lacerations were found on the left temporal pole and on the lower surface of the temporal lobe. These are by no means exactly opposite the site of injury, and are the usual site for contrecoup injuries whatever the site of the original violence.

My thanks are due to Professor O'Farrel and Dr. Boulgakov for their help in the preparation of the case.

ZINC GLYCO-GELATIN:

SOME OF ITS USES IN GENERAL PRACTICE.*

BY

W. MUIR SMITH, M.B., C.M. GLASG.,
EASTBOURNE.

THE merits of zinc glyco-gelatin were first brought to the notice of the profession by Unna for its efficacy in the treatment of dry forms of eczema, but, as far as I am aware, this plastic amalgam has not yet received a place in the equipment of the general practitioner, and it is the contemplation of this anomaly in the usual custom and fashion of the profession that induces me to bring to your notice the result of my experience of its use, now extending over twenty years, in other conditions which are met with in everyday practice—such as arthritis, dermatitis, erysipelas, erythema nodosum and simplex, myositis, periostitis, phlebitis, and varix of the leg, synovitis, "tennis leg," minor thrombosis, contusions, and sprains of the joints of the limbs, to mention the chief.

The amalgam employed in these cases is composed of oxide of zinc 1 part, gelatin 2 parts, glycerin 3 parts, and water 4 parts, prepared and compounded by a skilled pharmacist. When once the principle of the rationale has been grasped the selection of cases becomes comparatively easy, but it should also be realized that, as so much of the after-success depends upon the care devoted to technique, the task should not be undertaken in a perfunctory fashion. By way of illustrating what these injunctions imply, take the condition of a leg (by far the more common part) requiring a dressing. The following outline of directions, which, in principle, apply to all cases, naturally falls under two headings—preparation and application.

Preparation.

1. If necessary, previously instruct the patient to remain in bed for such a time as is likely to allow oedema to subside to a minimum.
2. Set the process of melting the solid amalgam going.
3. Thoroughly sponge the surface extent with methylated or rectified spirit twice or thrice over, to remove fatty excretions and loose epithelium.
4. Dredge the surface well with a dusting powder composed of calomel one part and starch four parts, using the palm of the disengaged hand to rub it uniformly all over.
5. Select an open-weave bandage (texture used throughout) of an appropriate width, and cut it into a sufficient number of strands to encircle the leg from the ankle to the knee-joint, due provision being made (in the form of a "many tail" arrangement) for allowing each strand to overlap the other, by half of its width, and, at its junction in front, the ends to overlap one another by two inches, in the series of their implacement from below upwards.

Application.

As the paste, when spread, cools and sets quickly, it is advisable to apply the *immediate* part of the dressing in two sections—namely, lower, from the upper border of the ankle-joint to the commencement of the calf; and upper, from the junction of the calf to within half an inch of the knee-joint.

1. With a brush, as rapidly as possible, apply a coating of the paste over the lower section, but leaving the flexure of the

ankle-joint free, by demarcating the lower boundary of the painted extent along the upper border of the joint, from a middle point in front, outwards and downwards, on each side, including both malleoli, to short of the plantar border of the heel, then continued posteriorly to meet at a point just above the insertion of the tendo Achillis.

2. Apply the strands in their "many tail" order over the painted extent, due tension the while being maintained by the hands between the ends so as to secure uniform and even apposition of the fabric to the surface.

3. Over the implaced strands run a single length of a continuous bandage, avoiding "reverses" here (which at no stage should ever be plied over the crest of the tibia); if uniformity cannot otherwise be secured, then cut the length, fix the free end down with a daub of the paste, and encircle anew, and thereafter firmly pass the hands, one on each side, over the bandaging, in a series of semicircular sweeps from below upwards.

4. Repeat 1, 2, and 3, on the upper section, which completes the application of the *immediate* part of the dressing.

5. Rapidly apply a second coating of the paste over the *whole* bandaged extent.

6. Over this run a second bandage, but applied in the opposite direction to the first, the hands being used as before; thereafter ("reverses" on either side being now permissible) run a third and a fourth bandage in alternate directions, the hands being used in the same way, which completes the affixation of the zinc glyco-gelatin dressing.

7. Finally, encompass the foot, from behind the toes, and the ankle with a bandage, in the usual fashion, which finishes the complement of the whole appliance.

While the surface should be unbreached and free from exudations, yet dry incrustations firmly adhering to the skin, which maceration with spirit has failed to detach, should offer no barrier to the choice of selection of cases. Except for the purpose of treatment, flexures of joints, which come into play, should not be included in the immediate dressing. In the case of the ankle-joint the same purpose is equally well served by the method of No. 7, which possesses the inestimable advantage over the orthodox instructions of permitting the bandage to be renewed as often as hygienic attention to the foot may demand, without impairing efficiency.

As a rule, first and second dressings should last from three to six months, and, on an average, third and subsequent dressings should remain serviceable from nine to ten months, or even longer. Fortified with this appliance, in about 95 per cent. of leg cases patients are enabled to walk about, while treatment is going on, in conditions of (a) subacute and chronic varix, immediately; (b) dermatitis, erysipelas, erythema nodosum, and periostitis, within a week; and (c) arthritis, myositis, phlebitis, synovitis, and minor thrombosis, within a fortnight—respectively after the affixation of the dressings. On a minimum enumeration of the records traceable, over seventy cases belonging to the varix category, and more than forty cases of the other classifications, have been treated during the past twenty years with unqualified benefit to the patients; and I venture to claim for this method of treatment, on the average of selected cases (in addition to its outstanding merit of enabling the patient to walk about, as aforementioned), a greater measure of all-round efficiency, in the way of (1) affording the comfort of relief from pain, (2) preventing the development of complications in the affected areas, and (3) effecting a cure, or expediting the recovery, or promoting the betterment, of the morbid conditions, than could have been hitherto, or can be at present, obtained from any of the other forms of treatment known to me in the course of over forty years' experience of general practice.

A précis of one classic case may suffice to convey some idea of the changes which this appliance is capable of effecting in a morbid condition which the practitioner has hitherto regarded with a *non possumus* attitude to benefit from any form of treatment whatsoever.

Mrs. M., aged 50 years, figure short, rotund, and expansive, weight 17 st., had for twelve years been afflicted with a varicose ulcer on each leg, deeply eroded, and of diameter 3½ and 3 in. respectively. After months of ordinary treatment the ulcers healed. The case was selected—with misgivings—for zinc gelatin treatment.

Before treatment the girth of the legs, at the middle of extent of lower section, measured 12 and 11½ in. respectively; the structures were thickened and indurated, deeply brawny and tender, and the outline of the venous main and anastomotic

* Abstract of a paper read before the Eastbourne Medical Society.