

in and rescue the patient. It is quite possible to suppose also that adhesion may take place with the urinary bladder, a fistula be established, and fæces passed by the urethra.

From its nature the treatment of this lesion must of necessity be very unsatisfactory. It may be comprised in the word "rest." This rest should be general and, as far as possible, local. The patient must be kept perfectly quiet, and not allowed to move hand or foot, and the peristaltic action of the intestines and the abdominal pain and tenderness must be controlled by the free exhibition of opium. The ingesta should be very scanty, and small quantities of ice may be given to suck. In the foregoing few words is comprised the treatment of this terrible and well-nigh hopeless complication. However, the faint chance of adhesion taking place should impel the physician to carry out the treatment of rest most rigorously. Should his efforts not be followed by success, as indeed they are almost certain not to be, he will have the satisfaction of feeling that at least he has smoothed the downward course to the grave.

A warning given by the late Sir Dominic Corrigan will not inaptly form a conclusion to this paper:—"Recollect," he says, "with these ulcers or diseased follicles, how thin a layer of serous membrane literally stands as the barrier between life and death in this disease, whether death result from hæmorrhage or from perforation; and that a purgative or an article of diet injudiciously exhibited may at any moment cause the one or the other. There is, perhaps (we would say certainly), no other disease in which recovery, and even life, depend so much on attention to details of treatment, and on steadiness in withholding officious interference, no less than in judicious management."*

ART. VI.—*Death from Starvation.* By ALEXANDER PORTER, M.D., F.R.C.S.I., M.R.I.A.; Brigade-Surgeon, Madras Army; Principal and Professor of Medicine, Medical College, Madras; and Fellow of Madras University.

DURING the Madras famine of 1877-78 four men, four women, and four children, of those who came under observation, may be said to have died from simple atrophy. On admission, two of the men and three of the women complained of debility only; one man and one woman were brought

Disease complained of.

* Lectures on the Nature and Treatment of Fever. 1853. Sect. X., p. 99.

insensible and died directly; one man and one child complained of feverishness of some duration, but showed no rise of temperature after admission; one child was suffering from eczema of the side of face and neck; one had pain in and irritability of stomach, which ceased after vomiting a lumbricus; and the remaining child had ophthalmia and ulceration of the scalp.

As to the duration of the illness, one man died *Duration of illness.* insensible on the day of admission, and had no history; the other three had an average of 17 days in hospital and of 19 days' illness before admission.

One woman also died insensible on the day of admission, and had no history; the other three had an average of 23 days in hospital and of 23 days' illness before admission.

The children were, on an average, 7 days in hospital, and 5 days ill before admission.

The average height of the men is 5 ft. 3 in., and of *Height.* the women, 4 ft. 11 in. On an average, the men were *Age.* about 42 years of age, and the women about 55 years. Two children were about a year old, one was about 3 *Weight.* years, and one was about 8 years old. The men weighed on an average 70 lbs. and the women 66½ lbs.

Rigor mortis had gone off only in one case 12 hours *Rigor mortis.* after death; in another it was still present 15 hours after death. The skin was usually covered with scurf, but the presence of itch was not noted. In a child there was eczema of the side of the face and neck; in another child there *Skin disease.* was ulceration of the scalp, and in this case and in another child there was injection of the conjunctivæ.

There was œdema of the feet present in three men, three women, and a child.

The scalp was thin and pale, and on removing the *Skull.* calvarium no blood appeared on the meninges, as is usual when the sinuses are full, in two men, all the women, and all the children. In the other two men some blood flowed from the severed vessels on cutting through the scalp, and from the surface of the meninges and base of the skull on removing the calvarium and brain. In one of the other men a quantity of blood flowed from the base of the skull on removing the brain.

On cutting through the meninges serum was found *Arachnoid.* in the cavity of the arachnoid in all the men, three women, and two children; and it was found effused

under the arachnoid filling up the sulci of the brain in three men, three women, and one child. In one of the women the subarachnoid serum was blood-tinged.

Pia mater. The larger vessels of the pia mater were full in a man and two children, and the lateral veins only were full in two men. In one of the latter the membrane was purplish in colour, and in a woman it was whitish, as if sodden by the subarachnoid effusion. In this case there was a hard, round clot, the size of No. 1 shot, on the corpus callosum: In a

Ecchymosis. man there were some blotches of ecchymosis on the sides of the brain; in a child there was slight ecchymosis near the longitudinal fissure in front, and in another the effusion was dark-coloured and considerable in quantity, quite filling the sulci of the posterior part of the right hemisphere of the brain.

Brain substance. The average weight of the brain is $39\frac{1}{2}$ ozs. for the men, and 36 ozs. for the women. The substance looked healthy in three men and two children, and it was soft and anæmic in the others. In only one case was there any serum in the ventricles; this was a little whitish fluid, in a woman.

Pleuræ. The pleural sacs were quite healthy in all the children, two women, and one man, and they looked healthy but contained a pint of amber serum in a woman. In another woman there was about half a pint of serum in each sac, and in two men the sac was
Hydrothorax. only moistened with serum. There were old points of
Adhesions. adhesion in one pair and one right pleura in men, and in one right pleura in a woman; and the adhesions were firm and extensive in one pair and one left pleura in men, and in one left pleura in a woman.

Lungs. The lungs were quite healthy in only one man and three children, and the left lung in a woman. In the man and in the left lung in one of the children the bronchi contained a quantity of muco-purulent fluid; and in another of the children there was some hypostatic congestion present. The weight of the right lung in the man was $10\frac{3}{4}$ ozs., and of the left lung, $10\frac{1}{2}$ ozs.; and of the left lung in the woman, $8\frac{3}{4}$ ozs. In one child the lungs looked healthy, but on section they were studded with red spots, from which could be squeezed some serous fluid, as in incipient lobar pneumonia.

Congestion, with œdema. There was more or less lividity with œdema, mostly confined to the posterior border, of both lungs in a man and two women. The right lung weighed $13\frac{3}{4}$ ozs. in the man, and averaged 14 ozs. in two women; and the left lung weighed $11\frac{3}{8}$ ozs. in the man, and averaged $13\frac{1}{2}$ ozs. in the women.

Apneumatoses, with œdema. There was apneumatoses with œdema of some parts of posterior border—or, in one case, of lobules of the lung—in both lungs in two men and a woman, and of the right lung only in another woman. The average weight of the right lung is $14\frac{1}{2}$ ozs. in the two men, and $11\frac{1}{4}$ ozs. in the two women; and of the left lung. $12\frac{3}{4}$ ozs. in the two men, and in the woman it weighed $11\frac{3}{8}$ ozs. In one of these men there

Tuberculous deposit. was a tuberculous deposit in the apex of the left lung of the size of a walnut. It had a cavity in its centre, and the surrounding lung tissue was œdematous, but not congested.

Pigmentation. Pigmentation of the lung tissue was well marked in both lungs in a middle-aged man, and in the right lung in an old woman.

Pericardium. The pericardium was healthy in a woman and two children, and it looked healthy but was moistened with serum in three men, three women, and a child; in another child it was distended with pale serum, and in a man it contained two ounces of serum.

Heart. The surface of the heart was quite devoid of fat in two men and in all the children, and in the other two men there was only a trace of fat present; in the two women there was a moderate amount of fat present.

Fat. The white detachable lymph deposit known as the *Soldier's spot*. “soldier’s spot” was present in two men. In one of these cases it was rather indistinct, and situated on the apex of the heart.

Cavities. The cavities of the heart were found empty in a man and three women, and they contained blood and clots in a man and in all the children, and the right side only contained blood or clots in two men and a woman.

Weight. The average weight of the heart is $4\frac{3}{4}$ oz. for the men and 5 oz. for the women.

Peritoneum. The peritoneum was quite healthy in two men, three women, and in all the children, and it was equally healthy in appearance, but contained serum in

two men and a woman ; in one of the men the serum
Ascites. was a quart of slightly turbid fluid, in the other it
 amounted to only half a pint of pale straw-coloured
 fluid with a cloud of jelly-like lymph floating therein, and in the
 woman it was a pint of pale amber fluid.

The stomach was noted small in two men, three
Stomach. women, and in all the children, and large in a woman.
 It was quite empty in a man, a woman, and three
Contents. children. It contained fluid, usually bile-tinged, in
 three men, two women, and one child, and it contained
 four lumbrici in a woman, and much gas in a man.

The mucous coat was noted smooth in a man, two
Mucous coat. women, and a child, and rugose in two men, a woman,
 and three children. It was noted pale and thin in a
 man, three women, and three children, and congested red to livid
 in a man and a woman, and a child, and in a man it was pigmented
 in parts, but otherwise healthy-looking.

The small intestine contained yellow, bluish, or
Small reddish fluid in a man, three women, and a child ; in
intestines. the others it was empty, except being distended with
 gas in a man and a child, being lined with green mucus in a man
 and two children, and containing lumbrici in one of
Contents. these children, in a man, and a woman.

Lumbrici were found in five cases in all. There
Lumbrici. were six in a man, one in a child, 103 in a woman, not
 counting four found in her stomach, and two each in
 two other women.

There was some constriction of the ileum four feet above the
 valve from girdle ulcers encircling this part of the gut in a
 woman, and in another woman there was a small pedunculated
 fatty tumour also in the ileum.

The mucous coat was normally injected in two men
Mucous coat. and a child ; it was anæmic in a man, a child, and all
 the women, and it was hyperæmic in parts of the
 ileum in a man and two children ; in the former there were small
 spots of submucous ecchymosis in the ileum. In a
Ecchymosis. woman and a child Peyer's patches were felt thickened
 and were pink to livid in colour. In an old woman
Tubercular there were seven black-based, thick-edged girdle ulcers,
ulcers. about an inch in diameter, and quite encircling the
 ileum, four were nearly close together at the fourth foot from the

valve, and caused partial constriction of the gut. There was pigmentation of parts of the ileum in a man, and all through in a woman. It was slightly œdematous in a woman.

*Pigmentation
œdema.*

The large intestine contained some fæces in a woman and a child, and in all the others it was empty, except that there were adherent scybala in a man, a film of dry fæces in another, and green mucus in a child, and it was distended with gas in a man and a child. There were two small fatty tumours in the colon in a woman. The mucous coat was normally injected in two men and a woman;

*Large
intestine.*

Mucous coat.

in the latter there was some lividity of the cæcum, and the rectum was red and swollen. It was anæmic in two men and two women, and in a woman there were livid spots in the transverse colon, and in a woman livid streaks in the cæcum. It was injected deep rose to red in all the children; in one the mouths of the follicles were red punctated, and in another there was thickening, with papillation in the rectum.

Pigmentation.

There was pigmentation, giving the mucous coat a more or less slaty coloration in a man and a woman.

Ulcers.

In a man there were small superficial livid-edged ulcers, with scybala adherent in the cæcum and ascending colon, and in another man there were two or three small circular superficial pale-based ulcers in the sigmoid flexure, and in a woman there were similar ulcers of the mouths of a few follicles. Diarrhœa was noted only shortly before death in one of these men, and obstinate constipation of some duration in the other.

Diarrhœa.

Mesentery.

There was a little fat in the mesentery of one of the men and three women, but none in the others. In one of the children the fat was replaced by œdema.

Glands.

The mesenteric glands were of about their normal size in a man, three women, and all the children; in one of the latter they were injected red. They were much enlarged in one of the men, and atrophied in two men and a woman.

Liver.

The liver was small in all these cases, weighing only $24\frac{1}{2}$ oz. in the men and $23\frac{1}{2}$ oz. in the women.

Adhesions.

There was abnormal adhesion between the capsule and parietes by two points of old standing, with dragging out of the hepatic tissue beneath into teat-like processes in a

woman. There was atrophy of the margin of the left lobe in three men. The substance was anæmic in all except one child.

Structure. Its structure was normal in a man and a child, and in the others it was fatty and of an ochrey yellow colour. In one of the men it was deeply pigmented and less fatty than in the others, and in one of the children a clear fluid flowed from the cut surface, which coagulated on standing, the liver surface being one mass of fat cells. In one of the slightly fatty livers in women the section was pale and studded with small circular spots like fish roe, the nature of which was not clearly made out by the microscope, and two very fat livers in women looked cirrhotic when cut.

Albuminoid degeneration was looked for in all and found in none.

The gall-bladder was empty in a man; it contained green bile in two women and three children, thin brown bile in a man, thick tarry bile in a man, oil-like fluid in a man, two women, and a child; in two men and one of the women it was turbid.

Spleen. The spleen varied in weight in the men from seven drachms to $3\frac{1}{4}$ oz., the average being $2\frac{1}{4}$ oz., and in the women from $\frac{1}{2}$ oz. to $5\frac{3}{4}$ oz., the average being $2\frac{1}{4}$ oz. The capsule was thickened in points where adherent to parietes in a man. The substance was firm, not friable, and deficient in pulp, with no exudation under pressure in three men, two women, and all the children, and in a man and two women it was easily friable into a brown pulp like thin jam.

Kidneys. In the men the weight of the right kidney ranged from $2\frac{1}{8}$ oz. to $3\frac{3}{8}$ oz., the average being $2\frac{5}{8}$ oz. nearly, and that of the left from $2\frac{1}{4}$ oz. to $3\frac{3}{4}$ oz., the average being $2\frac{3}{4}$ oz. fully. In the women the weight of the right kidney ranged from $1\frac{1}{2}$ oz. to $2\frac{1}{2}$ oz., the average being 2 oz. fully, and that of the left from $1\frac{1}{8}$ oz. to $3\frac{3}{8}$ oz., the average being $2\frac{1}{2}$ oz.

Surface. The capsule stripped easily, except in a man it was slightly adherent. The surface was studded with small cysts in two men and a woman. The substance was anæmic and fatty in three men and all the women. Desquamation cells were abundant in a man and a child.

Pancreas. The pancreas weighed on an average $1\frac{1}{2}$ oz. fully in the men and $1\frac{3}{8}$ oz. in the woman. Its structure appeared healthy in all.