On January 19 the dynamometric record was 115 and 105 on the right and 65 and 60 on the left. It was now noted that the knee-jerk was less active on the left than on the right, and the patient stated that he had been aware for three or four days that the left side of his body was weaker than the right. Three days later he was seen with me by Dr. C. K. Mills and Dr. W. W. Keen. He now spoke definitely of weakness of the left upper and lower extremities. On examination no paralysis of any ocular muscle or of the associated movements of the eyes or of the facial, temporal, pterygoid or masseter muscles, or of those of the tongue or the mouth could be discovered. Nearly all of the movements of the left upper extremity were preserved, and they were executed almost as well as on the right, except perhaps for some weakness of movement in distal parts. There was distinct ataxia in the left upper extremity, as tested by approximation of the finger to the nose and to objects of small size. In the left lower extremity also all movements were preserved, although those of the foot were a little awkward. The test of bringing the heel to the knee was well executed. The knee-jerks were preserved, that on the left being the more marked. Slight ankle-clonus also was present on the left, soon, however, disappearing. The entire left lower extremity was ataxic. Station was good. The patient was able to stand on the right foot only with great difficulty and on the left foot with even greater difficulty. There was no Babinski phenomenon on either side, and plantar flexion of the toes was observed once on the right. There was no metatarso-phalangeal response, but marked dorsal flexion of the feet on both sides. The stereognostic sense was preserved and there was no loss of sense of posture or of touch or of pain or of localization. There was no hemianopsia on either side. There was some mental sluggishness. The patient stated that his condition was unchanged, the headache and vertigo being as bad as they had been, although there had been no vomiting for six or seven days. He was constantly drowsy and he slept well. In addition to the treatment already mentioned mercuric chlorid (gr. 1/24 thrice daily) was now prescribed.

On January 26 the patient thought his headache less, and that the left hand was not so weak as it had been, but he still walked with difficulty. He was constantly sleepy. The knee-jerk was distinctly more marked on the left than on the right, but there was no ankle-clonus and no Babinski reflex.

On February 2 the patient reported that he was still better than he had been. He walked better. His head felt better, and his headache was less, the pain now being referred to the vertex and varying in situation. There was less vertigo and the eyesight was thought to be improved. There was, however, no improvement in the power of the left upper extremity. The knee-jerk at this time was increased on the right, and even more so on the left. Slight ankle-clonus could be elicited on the left, but none on the right. The Achilles tendon jerk also was more pronounced on the left than on the right, but no plantar reflex could be elicited. The dynamometric record was 145 and 122 on the right, and 100 and 75 on the left. In standing the patient held his feet some distance apart, and his station was merely a little uncertain with the feet in apposition and the eyes open or closed. The gait was clumsy and uncertain, the feet being held some distance apart. The patient was now able to stand fairly well on his right foot and somewhat less well on the left foot. He exhibited a tendency to turn his head toward the left. The pupils were full, equal, regular, reactive to light and in accommodation. Ophthalmoscopic examination disclosed only some distension of the retinal veins.

On February 9, the dynamometric record was 137 on the right and 102 on the left. Station and gait were improved. The pupils were normal. Coordination was not so good in the left upper extremity as in the right. The plantar reflex was normal on the right, increased on the left. There was no Babinski reflex. The ankle-jerk was increased on the left, but there was no ankle-clonus. Vertigo was still present, though in much slighter degree than it had been. There was no headache, and drowsiness was less marked, while sleep was good. The upper and lower extremities on the left side were still slightly enfeebled.

On February 16, the patient was walking better. He still

held his feet some distance apart, but he walked with a sense of greater security. He stood well, with feet together and eyes open or closed. He had no headache and less vertigo. Drowsiness had disappeared, and he was gaining power in the left arm and leg. The pupils were normal. The knee-jerk was still increased on the left and normal on the right. The Achilles tendon jerk was slightly more marked on the left than on the right. A slight plantar reflex was present on both sides. The patient was now able to walk about the distance of a block, when he was compelled to desist on account of vertigo, which, however, was absent in the sitting posture.

On February 23 the vertigo was practically gone. There had been headache for three days at the vertex. The upper and lower extremities were still weaker on the left than on the right. The left hand felt heavy. There was no undue drowsiness. Memory, eyesight and hearing all were good. The dynamometric record was 147 on the right, 130 on the left. The knee-jerk was normal on the right, enfeebled on the left. The Achilles tendon jerk was normal on both sides. Station was still a little swaying.

The patient continued to improve, although some weakness on the left side of the body persisted and he suffered from headache now and again. In June he began to do some work and he gradually increased the amount up to three days a week. During most of the time he took mercuric chlorid (from gr. 1/24 to gr. 1/12 thrice daily) and potassium iodid (from gr. xv to gr. 1/50 thrice daily).

The early symptoms in this case—namely, vomiting, headache, vertigo and ataxia—at once suggested the possibility of a new growth involving the cerebellum. The subsequent development of left hemiparesis, with increase in the reflexes on the affected side, bespoke invasion of the motor tract on the right side. The absence of convulsions, of perturbation of consciousness, of sensory disturbance, of astereognosis, of mental derangement, pointed to freedom of the cerebral cortex, while the absence of changes in the eyegrounds and of palsy of ocular muscles and the escape of other cranial nerves indicated that the lesion must have been one of small dimensions. The afebrile course of the illness seemed to exclude an inflammatory process. The results of treatment raised the question of a possible syphilitic infection, while the drowsiness—which seemed greater than could have been due to the bromids administered for the relief of the intense headache—pointed in the direction of meningitis or arterial disease.

RUBBER TUBING AS A PERCUSSION HAMMER.

A NEW METHOD OF PERCUSSION.

F. M. POTTENGER, A.M., M.D.

MONROVIA, CAL.

It may seem presumptuous to offer anything new in a field which has been so thoroughly tried as that of percussion, yet I offer what I believe to be a new method and one that possesses superior advantage over methods in common use.

Instead of a percussion hammer or finger with which to percuss the chest, I use a piece of rubber tubing, four or five inches long, and deliver the stroke directly on the surface of the chest. It makes a difference in the sound elicited whether a soft elastic tube or one with rigid walls is used; the former gives more or less of a dead sound, while the latter emits a note. The tubes which I have found most useful are a soft flexible tube with a lumen of 3/16 inch and walls 1/16 inch and a piece of ordinary tubing such as is used on douche

bags, with firm walls, not too thick, and a lumen of $\frac{3}{16}$ inch.

The great difficulty with ordinary methods of percussion is that we rarely elicit the simple tone which should be produced by the underlying tissues, but obtain this tone plus that emitted by the vibrations of the bony thorax. With the use of the rubber tubing there is no noticeable thoracic resonance. The density of the underlying tissue can be determined readily both by the ear and by the sensation of resistance which is transmitted to the hand. When tubes with firm walls are used a tone is transmitted which changes with the density of the underlying part.

This is a valuable method of outlining the heart, the

Fig. 1.—New method of percussion by rubber tubing.

relative and absolute dulness being easily differentiated. Different degrees of infiltration and density in the chest are also easily detected, making this method of value in examining tuberculous chests.

One advantage is that the stroke may be made across the ribs as well as parallel to them, because it does not set the chest wall into vibration. Like all forms of percussion, it is most valuable where the least tissue intervenes between the skin and the part percussed, and is less satisfactory over the fleshy parts.

Perhaps a smaller, more definite area can be examined by the old method in which the finger or other pleximeter is used, and yet when we consider that we can use

Fig. 2.—Soft flexible tubing, with dimensions shown.

this method across the ribs as well as parallel to them and can percuss the parts immediately under a rib or under the sternum without setting the bony thorax into vibration, it is doubtful whether the supposed advantage is not more apparent than real. I find also that with practice one becomes expert with this method.

I have been using the method for over six months and have checked it with ordinary percussion, auscultatory percussion, auscultatory strokings and Ebstein's touch percussion. I find it very accurate; in fact, I can often elicit differences by this method that have been passed unnoticed by others.

While the old argument in favor of finger percussion, that one always has his fingers with him, still holds good, yet I believe this method is one of greater precision and believe it will pay one who appreciates exact methods to try it.

ABSCESS FOLLOWING ABORTION.

EDWARD W. ADAMSON, M.D.

DOUGLAS, ARIZ.

This case is reported as illustrating both the serious results that may follow an abortion and the surgical importance of the omentum.

History.—Mrs. H., Mexican, age unknown, mother of five children. Family and personal history negative. I first saw the woman June 22, 1906, when she complained of severe pain in hypogastrium. She had had a spontaneous abortion, following a family fight, six weeks before, and had been more or less sick since. She had had no movement of the bowels for four days; temperature was 102.5 F., pulse 110. Her tongue was badly coated and breath fetid. Urination was frequent and she had vomited once just before my arrival, but the vomitus was not saved. I found the patient on the floor on a blanket.

Examination.—There was no abdominal rigidity and only slight tenderness just above the pubes. Bimanual examination disclosed a slightly enlarged uterus, in normal position with the cervix soft and the os not patulous. Ovaries and tubes were negative. There was a slight yellowish discharge, but no bad odor.

Diagnosis.—Endometritis, following abortion.

Treatment.—A saturated solution of magnesium sulphate every hour in two dram doses until the bowels moved freely. Codein sulphate, gr. $\frac{1}{4}$, every three hours for pain.

The following day the patient was much better; there was free catharsis, temperature 99.5 F., and the pain was almost gone. There was no tenderness.

Second Examination.—I was discharged, but four days later was recalled and found the patient very sick with a temperature of 103.8 F. and a pulse of 130. There was severe general abdominal pain with the facies abdominalis. A large tumor mass was seen in the left half of the abdomen, apparently rising out of the pelvis, hard, non-movable, rounded, and the size of an adult head. There was dulness over the tumor. The left rectus was rigid over the tumor and lax above it. There was a smaller irregular tumor mass on the right side; also apparently from the pelvis; it was hard to outline and gave a flat note on percussion. The right rectus was very rigid. Bimanual examination revealed a fixed uterus with slight enlargement. There was bulging of the cul-de-sac of Douglas. Blood count showed leucocytes, 28,000. The patient was ordered removed to the Calumet Hospital.

Operation.—This was performed the same afternoon, with the assistance of Drs. Hickman, Tuttle and Lund. A median incision was made extending from the pubes to above the umbilicus. Immediately on opening the peritoneum there was a gush of pus and fecal material, of which about three quarts were removed. After thoroughly sponging out the cavity the following condition was found: The uterus was bright yellow in color, slightly enlarged, and in normal position. The tubes were apparently healthy, except for the peritoneal coat which shared in the surrounding peritonitis. The sigmoid was the only gut in the cavity. The upper wall of this large cavity was formed by the omentum. The large tumor mass to the left was the small intestines, held up by the omentum, which had curled around and below them, and attached itself to the posterior abdominal wall, holding them up and away from the infected cavity. The cecum and appendix were also covered. The rupture in the gut was evidently in the sigmoid, as this was the only gut in the cavity. However, the opening could not be easily found and as the woman's condition was serious we did not search long. A puncture wound was hurriedly made through Douglas' pouch and a long fenestrated rubber tube carried through, allowing the lower end to project from