gradually shortened, until it was dispensed with on the twentieth day.

For a few days after the operation pus was found in diminishing quantities in the urine, until it finally disappeared. The amount of urine gradually increased in quantity, reaching to as much as 64 ounces a day. The temperature, which previous to the operation had been hectic, fell to normal within twenty-four hours of the operation, and has never since reached more than 100.4° , and that only once, namely, on the third day. We found no stone nor sign of tuberculous disease. The man is now fat and well.

I have to thank my colleagues, Mr. McNiell and Mr. Stewart, for valuable assistance in this case.

A CASE OF HEPATIC COLIC CURED BY THE INGESTION OF OLIVE OIL.

By ALFRED S. GUBB, M.D. PARIS, ETC.

A GREAT deal of scepticism has been felt and expressed in regard to the benefit alleged to have been derived from the ingestion of tolerably large quantities of olive oil in the treatment of hepatic colic. The fact that the oil during its passage through the intestines undergoes changes therein, and is voided in masses which bear a striking superficial resemblance to gall stones, has on various occasions been used as an argument against the oil having had any share in procuring the expulsion of genuine gall stones. A case which recently came under my observation seems, however, to show that benefit can be and is derived from this treatment whatever may be its *modus operandi*.

The patient was a gentleman, aged 46, who had a first attack of trouble in the region of the gall bladder, in June, 1890. It began with sharp pain associated with sickness, relieved only by repeated hypodermic injections of morphine. The pain recurred in paroxysms for a week, during which period he remained in bed. There was no jaundice but the motions were markedly light in colour. No search was made for a gall stone. A week later the symptoms recurred along with the vomiting, and this time he was systematically purged by means of mineral waters, turpentine stupes and poultices being applied freely to the painful region, and the diet carefully regulated. No relief to the pain resulting except by the aid of morphine. He was ordered hot baths every night for a quarter of an hour, and told to wear a piece of spongiopiline over the liver. The symptoms having partially subsided he was sent to the Engadine with directions to take plenty of exercise, and in six weeks he returned free from trouble. He remained free from pain until November, 1893, when the old symptoms returned, associated with intense jaundice. This condition persisted, at first with intervals of three weeks, until February, 1894. The intervals gradually became shorter until at last he was never free from pain for more than thirty or forty hours at a stretch. Needless to say that during this period the diet was carefully regulated, but without any effect either on the pain or the jaundice. On one occasion he tried the experiment of abstaining from food altogether for three days, but he felt worse after than before. The patient's condition was rapidly becoming one of some gravity, for he had lost nearly 3 stone in weight and was practically incapacitated from attending to business. The gall bladder was greatly distended and tender, and hard bodies could be felt on palpation. He was gradually becoming reconciled to the prospect of surgical interference as the only means of overcoming his trouble when I suggested to him to give the olive-oil treatment a trial, though I must confess I did so without any belief in its efficacy—a scepticism which I did not, moreover, hide from my patient. He gladly agreed to try it as a last resort before having recourse to a surgeon, and towards the end of February he began the treatment, taking 5 grains of calomel at night followed by 8 fluid ounces of pure olive oil in the morning. He experienced no difficulty in swallowing the oil, which never provoked nausea, still less actual sickness. After the very first dose the pain ceased, and the motions became darker, evidently containing bile. In the course of two or three days they resumed their natural appearance. At the

same time the urine, from a dark brown, became quite light in colour.

It is now a year since he began the treatment and eleven months since he discontinued it, and he has never had the slightest return of the symptoms in spite of the fact that he has long since abandoned all restrictions as to diet, though on my advice he has become an enthusiastic cyclist, and weather permitting takes daily exercise. No stone was ever detected in the faeces, though, for a time at any rate, the patient made diligent search, which was rendered very tedious by the presence in the motions of numerous concretions of cheesy consistency, evidently due to the partial saponification of the oil. Nothing can at present be felt in the region of the gall bladder, and the patient is in every respect in the best of health.

INJECTION OF OLIVE OIL FOR REMOVAL OF IMPACTED BILIARY CALCULI.

By EDWARD M. BROCKBANK, M.D. VICT., M.R.C.P. LOND.,
Resident Medical Officer, Manchester Royal Infirmary.

IN the interesting series of papers on the surgery of the gall bladder and ducts which have appeared in recent numbers of the *BRITISH MEDICAL JOURNAL*, a good deal of attention has been paid to the treatment of those cases in which calculi are lodged in the hepatic, cystic, or common bile ducts, and cannot be removed at the time of operation. Such cases are very difficult to treat. The ducts are deeply situated, and the operator experiences considerable difficulty in localising the stone and in examining it with the finger. Various mechanical methods have been suggested, and are actually in use for removing such impacted stones. The chief of these are crushing with padded forceps or breaking up with a strong needle. There is a source of danger in both these methods, for rupture of the duct may easily result from either, and peritonitis is likely to supervene.

Another method suggested by myself in the *Manchester Medical Chronicle* for January, 1894, is well worth a good trial. It has the merit of being very simple, free from any source of danger, and very likely to remove the obstruction fairly rapidly. The method is that of injecting olive oil or oleic acid, warmed up to about the body heat, into the gall bladder and ducts through the fistulous opening. I was led to suggest this method from observations made in 1892 on the solvent action of olive oil and oleic acid on gall stones. Both substances are ready solvents of cholesterolin and gall stones, as the following results will show:

A calculus placed in olive oil (temperature kept constantly at 98° F.) lost in four days 50 per cent. of its weight (1.6 g. to 0.8 g.). A similar calculus placed in oleic acid under the same conditions lost 63 per cent. of its weight in two days (1.21 g. to 0.44 g.).

An idea of this rapid solution of biliary calculi can easily be obtained by placing one in olive oil or oleic acid and keeping it about the body heat for twenty-four hours. I have only been able to try the treatment in one case referred to below. For obvious reasons the result was unsatisfactory, and it is with the idea of getting others to try the treatment that I give a short description of the apparatus itself and the method suggested for its use:

G. E., a labouring man, aged 54, admitted to the Manchester Royal Infirmary on March 1st, 1894, complained of having suffered for some months previously from intermittent colicky pains in the right hypochondriac region accompanied by jaundice. On admission he was markedly jaundiced, the urine contained much bile pigment, and the stools were clay coloured. He complained of pain in the region of the gall bladder, and on examination a pyriform tumour was found to extend from the ninth right costal cartilage towards the umbilicus. It moved down with inspiration. Dr. Dreschfeld, under whose care the case was, diagnosed an impacted gall stone, and Mr. Jones, who was called in in consultation, being of the same opinion, it was decided to perform cholecystotomy. This was done about two weeks after admission, and the pyriform mass found to be the gall bladder distended with blackish-green thickened bile. No calculi were found, but Mr. Jones felt with his finger a vague swelling deep down about the junction of the common duct and the duodenum. No attempt was made to crush the (?) stone. After the operation bile flowed freely through the fistulous opening. Following upon the operation the jaundice disappeared and the urine lost its bile pigments, but the stools remained clay-coloured; the pain disappeared. As this condition of affairs persisted for two or three weeks I tried the effect of injections of olive oil, using the apparatus and method described below. The patient experienced no discomfort whatever, but was much interested with and helped in the proceedings. When the pressure was raised by elevating the funnel above 12 inches, the patient experienced a sense of fullness, and once or twice said he felt

something moving under a point upon which he placed his finger, and which was about the region of the duodenal end of the common bile duct. In the stools passed after such occasions I found small quantities of oily matter, which I thought might be part of the injected oil. I injected oil in this manner daily for two or three weeks, but without any satisfactory result. For two months after the operation the patient increased in weight, but was always troubled with looseness of his bowels, an evacuation of a clay-coloured stool taking place invariably after a meal. The stools were always fatty. In course of time a tumour could be felt to the right of the epigastrium, which gradually enlarged, and the patient became very cachectic. He finally died on October 18th, and on *post-mortem* examination the head of the pancreas was found to be enlarged by a cancerous mass which obstructed the orifice of the bile duct. No calculi were found.

The apparatus consists simply of a small glass funnel, 12 inches of drainage tubing to fit on to the end and connecting the funnel with a No. 10 or 12 Jacques catheter. This is the same apparatus as is used for washing out bladders, but it is better for the funnel to be small. The catheter is passed into the gall bladder for about 2 inches, and then cotton wool is loosely packed around it as it passes through the fistulous opening. The catheter must be held in also, and this the patient can easily manage. The funnel is then filled with the warm oil, which, after the air has escaped from the tubing, is allowed to run into the gall bladder. The funnel ought to be elevated to about 10 or 12 inches from the abdominal wall, so as to produce a little pressure. On pouring more oil into the funnel the gall bladder and ducts become distended with it and the oil begins to escape through the cotton wool in the fistulous opening, which acts as a safety valve. Pressure like this can be kept up for a quarter to half an hour without any discomfort to the patient. By this means the oil is forced down to the impacted stone, and can be made to play around it. When once the oil comes in contact with the stone it erodes it at a rapid pace, and will soon reduce it enough in bulk to enable the impaction to be overcome and to induce the final expulsion of the stone from the ducts.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

RUPTURE OF THE UMBILICAL CORD AT ITS PLACENTAL INSERTION DURING DELIVERY.

Mrs. J., a multipara, consulted me on March 28th, being then eight months advanced in pregnancy, complaining that she was obliged to keep her bed by reason of the extreme discomfort she suffered from her distended abdomen, and for a "forcing sensation" she felt about the pudenda when she stood up, which she described as "unbearable."

On examination, the abdomen was seen to be abnormally large and somewhat oedematous; the os was sufficiently dilated to admit easily one finger, but as she had no labour pains I did not think it advisable to interfere, but ordered her to remain in bed.

On March 30th I found her in strong labour, the os fully dilated, the head presenting, the membranes protruding and very tense. On rupturing them, a considerable amount of liquor amnii escaped, and the head engaged in the "second position." Delivery took place naturally in about ten minutes, followed by a further rush of amniotic fluid. The child was somewhat cyanosed, but speedily recovered, but I was surprised to find that the funis attached to it was free at its maternal end, having been evidently torn from the placenta. There was very little hæmorrhage, and as the uterus contracted firmly on the placenta I awaited its natural expulsion, which took place about fifteen minutes afterwards. On examining this subsequently, a few ruptured vessels on its surface alone marked the spot where the cord had been attached. The funis measured in its entire length 10½ inches.

The history of the previous pregnancies of the patient shows that with the first three she miscarried; with the fourth she was delivered at term; with the fifth she aborted at six months and a-half; with the sixth, seventh, eighth, and ninth she was delivered at term; and with the tenth,

eleventh, and twelfth she miscarried. Her present accouchement is the thirteenth pregnancy.

The amniotic fluid collected measured 8 pints, but I estimate that the total quantity was nearer 16 pints. I may add that since her twelfth pregnancy I have had her under treatment for glycosuria, which was very persistent, but yielded to diabetic treatment, which was continued until within two months of her present delivery.

Jewry Street, E.C.

H. J. SEQUEIRA, M.R.C.S.Eng., etc.

TONIC SPASM FOLLOWING A MEDICINAL DOSE OF CITRATE OF CAFFEINE.

On March 20th a lady of 64, on rising in the morning, complained of headache. By 10 A.M. she was compelled to lie down, and a member of the family, who had derived benefit from citrate of caffeine, administered a teaspoonful of a well known effervescing preparation of that drug. The pain still increasing, at 1 P.M., a second teaspoonful was given. The headache became more violent than before, complaint was made of jerking of the hands and forearms; soon the fingers began to be rigidly clenched, and shortly after the head was seen to be drawn to one side, with the jaws tightly fixed together. At this stage (2.45 P.M.) I was hurriedly summoned. I found the fingers of both hands as described, and the muscles of the face tightly drawn, but with some imperfect articulation by this time possible. Friction of the affected parts did some good, and a dose of 30 grains of chloral was ultimately followed by recovery of control over the muscles.

There had been no loss of consciousness throughout. The patient's sensation had been chiefly one of great faintness, with an inclination to be sick (though there had been no vomiting), and the feeling that she was to die from sudden exhaustion. For many years she had been subject to headaches, chiefly one sided, and she reminded me that two years ago I had prescribed antipyrin for the pain, the result being that, by using it when required, she had not since suffered in any degree till now, when no powders had been at hand.

Are we to trace the relationship of cause and effect between the citrate of caffeine and the symptoms above described? Certainly the dose (about 2 grains in all) was small, and of itself not likely to produce toxic effects; but, on the other hand, it was given to a person who was specially sensitised for the action of the drug. This patient's headaches had always been relieved by antipyrin, proving them to be of that type attended by tonic contraction of cerebral vessels. Instead of receiving a remedy designed to relieve that condition, she got a drug which is powerful in producing the same condition, as proved by its efficacy in headache due to paralytic dilatation of the cerebral vessels. These two opposite forms are very fully and clearly described by Dr. Long Fox in his work, *The Influence of the Sympathetic in Disease*, and caffeine is there named as having the direct effect just assigned to it. I have seen several cases in which headache was undoubtedly increased by using the medicine, so that I never prescribe it without warning the patient that the dose is not to be repeated if aggravation of the pain follows its first administration. In this case aggravation of the pain was distinct, no doubt due to increased narrowing of vessels already unduly contracted, and the increasing pain gradually led up to the other symptoms. Experiments with caffeine in the lower animals show that tetanic spasms, "not unlike those caused by strychnine" (Mitchell Bruce), are a common result. Such effects have not so far been reported in man, but so suggestive of strychnine poisoning were the appearances, that my first questions were with reference to the possibility of that agent having been used; I satisfied myself, however, it had not been used. The only case of caffeine poisoning which I can find reported is one related by Dr. Routh,¹ where a very large dose was swallowed. The absence of convulsions in that instance is remarked upon, muscular tremor having been the nearest approach to them.

In conclusion, I confess to a strong opinion, for the reasons given, that the caffeine was the cause of the tonic contractions described above, and I feel that a watchful eye should be directed to the drug, especially as it is now being largely

¹ *Lancet*, i, 1883.