The distal ligature came away on the 15th, the proximal on the 17th, of October, the eighth and tenth day respectively. His recovery was somewhat tedious, and he long complained of great pain about the region of the shoulder joint. There was a remarkable paralysis for some time of the intercostal muscles of the left side, arising, probably, from injury to the intercosto-humeral nerves. The limb remained œdematous. Pulsation never returned in the radial or brachial artery. The deltoid muscle became much emaciated, and the shoulder-joint drooped considerably. He had little use of the left arm, from these causes and from stiffness of the fingers; but, the axillary wound having been cicatrised for some time, he left the hospital on January 17th, 1867, and has since enjoyed good health, but with a wasted limb.

There seem to me to be several points of interest in connexion with this case: first of all, the cause of the rupture. Many cases are recorded in which slight causes, such as stretching of the axillary artery during the reduction of a dislocation of the shoulder-joint, have been followed by this accident. Thirty-one such cases are referred to by Mr. George W. Callender in the second volume of *St. Bartholomew's Hospital Reports*, and in two of them there was also fracture of the glenoid cavity. Mr. Callender thinks that, in these two cases, "some sharp edges or points were present, against which the vessel might have been torn." I am sure that in this case no such tearing took place. The small oval aperture was found on the anterior and upper surface of the artery, just after it emerged from beneath the lesser pectoral muscle. The whole of the axilla was stuffed with firm black coagulum; so that, when the clots were all turned out, it appeared as if dissected out by the scalpel of the anatomist. The boundaries were all distinctly visible, and the course of the vessels and nerves was distinctly perceptible. There was no spiculum of bone to be felt, and none could have come in contact with the artery. The position occupied by the wounded vessel was remarkable. Although the aperture was on its anterior and upper surface, the aneurism extended below and behind it; and, in place of the vessel resting on the subscapular muscle, it was pressed forward against the pectoralis major, and separated from the former muscle by the great chasm of the aneurism. It was owing to this that the principal hæmorrhage occurred, which took place during the operation; for, expecting, from the position of the pulsating tumour, that the artery would be pushed backwards, I searched in that direction for it with my finger, and so lost a little time in securing the vessel above the wound. I may mention, that the patient was a thick-set muscular man; and that pressure above the clavicle failed to command, or indeed to produce any effect on, the arterial flow.

With respect to the mode of conducting the operation: I commenced by making a small incision, and turning out the coagula with my finger. The quantity thus extruded was surprising. I expected to feel the fresh flow of arterial blood, and thus to command it readily with the finger. In this I was disappointed, owing to the high position of the rupture; and I was obliged to extend the wound along the whole inferior border of the pectoralis major, before I could get the sac thoroughly emptied and the bleeding orifice brought into view. In a case operated upon by myself, and in another under the care of Mr. Paget, Mr. Callender, in the paper before alluded to, mentions that, in addition to such an incision as I practised, a perpendicular incision was made, dividing the lower part of the substance of the pectoralis major. Had it been necessary, I was prepared to make this second incision; but, considering it of importance to divide as little muscular substance as possible, I preferred to endeavour to complete the operation without having recourse to this step. Though, perhaps, under the peculiar circumstances of this case, the vessel being displaced forwards, such a step might have rendered it rather easier to lay bare the bleeding point, I think it is better to plan the operation so as to avoid, if possible, cutting through the thick muscular substance of the pectoralis major.

With regard to ligatures, I may mention that, having on two former occasions applied metal ligatures—one to the external iliac, and one to the femoral artery—and not having been satisfied with the results, I used on this occasion the ordinary strong silk ligature. The application of the middle ligature was of no use. The complete closure of the aperture when caught by the artery-forceps, and the apparent healthiness of the coats, tempted me to apply it; but, though I do not think it could have done any harm, it is a proceeding which I would not repeat.

The most singular point in the case is unquestionably the occurrence, twenty hours after the operation, of nearly fatal secondary hæmorrhage; and the fact that never again was there the slightest tendency to its repetition. Whence came that still, slow, but excessive hæmorrhage, is a question which I have often asked myself. Clearly, it did not come from the proximal ligature. Had the artery been diseased at this spot, and the ligature cut through the coats, there must have been a recurrence of the hæmorrhage; and the bleeding at the time would have been marked by greater activity, and must, considering the quantity,

have at once proved fatal. It is more probable that this accident might have occurred at the distal ligature, but even that is very unlikely. The shortness of time from the application, and the fact of there being no return afterwards, militate against that view. I am, therefore, inclined to suspect that a branch must have been given off between the ligatures from the back part of the artery, which was not brought into view; that it was probably of no great size; but, on the collateral circulation being restored, it bled long and freely. The state of collapse into which the patient fell, and the direct pressure at once applied by the house-surgeon, may have caused, in a small vessel, coagulation sufficient to prevent any recurrence of hæmorrhage; and, in the absence of precise proof, I believe this to be the explanation of this very remarkable occurrence.

There is just one other point to which I would beg leave to allude: the period at which separation of the ligatures took place. I have been concerned in the ligature of many large arteries; but neither within my own observation, nor, as far as I can recollect, in my reading, have I ever found a ligature separate from a first-class artery like the axillary in the space of only eight days.

Lastly, in these days when patients are supposed to be killed by "hospitalism", I have to express my belief that this patient owed his life to the constant and assiduous attention of my friend Mr. Evans, who was at that time the house-surgeon of the Hull Infirmary, and that such promptness and constant supervision as he brought to bear on this case, could hardly have been procured except in an hospital.

IPECACUANHA IN EMETIC DOSES:

AS A STIMULANT, RESTORATIVE, ELIMINATIVE, AND ADJUVANT, IN VARIOUS CASES OF DISORDER AND DISEASE.

By JOHN HIGGINBOTTOM, F.R.S., Nottingham.

THE interests and advancement of the medical profession cannot fail to be greatly promoted by a long, careful, and practical investigation of the properties and effects of a single therapeutic agent. In the ordinary course of practice, a medical man may for a specific purpose and for many years be administering a medicine, as ipecacuanha (for its emetic, expectorant and diaphoretic properties) without noticing the other valuable qualities it may possess, and which would render it helpful in the treatment of functional derangement and disease; for instance, the specific properties of the nitrate of silver were not known, although it had been used in surgery for many years, until I called the attention of the profession to it upwards of forty years ago.

I have been led to think that at the present day emetics are less used than formerly, and that many practitioners seldom, if ever, prescribe them, either from a change in practice, or from a fear of the effects of the operation; and, perhaps, from another cause, the natural dislike of patients to take them. On that account, a most valuable and effective remedy is often avoided or neglected, and an ineffectual palliative is substituted for it.

During the last fifty years, it has been my usual practice with almost every patient labouring under either acute or chronic disease, first to examine the state of the *prima via*, and, if these be not in a satisfactory condition, to prescribe an ipecacuanha emetic to procure full vomiting; being well assured that no disorder or disease can be treated satisfactorily unless the assimilating organs be in a condition to receive either medicine or food. Without ipecacuanha, I should be constantly at a loss for a remedy.

The action of an ipecacuanha emetic excites the whole nervous, vascular, and respiratory systems, consequently the heart, the lungs, and the skin; and increases the action of the stomach, intestines, and liver; it acts also as a tonic stimulant to the general capillary organisation, so as to restore and produce a more normal state of the secreting and assimilating organs. The operation of the emetic produces a general reaction of the whole system, the torpid and congestive state of the various organs is roused and relieved, and the sanitary effects of the emetic are evident in bringing the system generally into a more active and healthy state, without producing any debility; on the contrary, I have often seen the effects in raising quickly the sinking powers of the system in extreme cases of syncope, hæmorrhage, etc.

Except in those cases in which I have wished to eject the contents of the stomach immediately, I have used the following method of administering the emetic. First, the patient to drink about a pint of weak tea, or thin gruel, and, half an hour afterwards, to take half a drachm of the powder of ipecacuanha, with ten grains of the bicarbonate of potass, in a little cold water, and, in a quarter of an hour after, to drink freely of weak tea or gruel. This usually acts as a safe, quick, and

decided emetic, producing a full and effectual vomiting, clearing away any mucous and morbid secretion which collects and often adheres to the coat of the stomach when the patient is in a debilitated state of body. By this means the lining membrane of the stomach is free to perform its natural healthy function. Should the above dose of ipecacuanha fail to induce vomiting, the dose may be safely repeated in half an hour. I have often proved what the late Dr. James Johnson affirmed in his *Medico-Chirurgical Review* of April 1844, p. 492, that "a single emetic will often effect more good in the course of a day, than any other remedy in the course of a week or more."

It is of the utmost consequence that the ipecacuanha should be genuine; owing to its high price, it is subject to adulteration; and I fear that tartarised antimony is sometimes added to render its emetic properties more powerful, but this adulteration causes a marked difference in the success of the treatment.

Dr. Thomas K. Chambers, in his *Renewal of Life*, page 56, says on the subject of "Restorative Medicine," that "If a case is seen early, almost the only thing the practitioner notices is the lowered vitality of the stomach, how badly it digests its food, and how it hates its usual work. He conjectures that its function is arrested by the presence of some poison, and he empties it with an emetic. In many cases, early in the disease, this cuts it short at once."

Dr. Holland, in his *Medical Notes and Reflections*, says on the use of emetics: "Beneficial as is the action of emetics in unloading the stomach, and upper part of the alimentary canal, it is certain that the influence goes far beyond this; and that other parts of the body, even the most remote and different in structure, are powerfully acted upon. The emetic, moreover, if rightly used, is beneficial not merely in the effects of morbid matters removed from the body, and after the nausea attending its operation, and by the mechanical effect of vomiting; a combination of advantages scarcely belonging to any other remedy."

English Cholera.—I have found ipecacuanha in emetic doses an invaluable remedy in the early and in the sinking state of English cholera. The first time I witnessed the extraordinary power of ipecacuanha as an emetic dose, in the sinking and congestive state of English cholera, was in 1814. A female, forty years of age, was suffering in the last stage of the disease; the countenance was shrunken, the extremities cold, she had spasms in her legs, and other symptoms of approaching dissolution. I had just previously attended two similar cases, in which I had given opium, brandy, and medicinal cordials, and both patients died. I was induced to give, in this instance, an emetic dose of ipecacuanha, from having often seen its good effects in the commencement of the disease. Several hours after the emetic had been given, I again visited my patient, expecting to find her dead; but, to my great surprise and pleasure, so great a change had taken place as to appear almost incredible; the whole of her body was of a natural warmth, the dangerous symptoms had all disappeared. She made no complaint, except of great weakness. She had no other unfavourable symptom afterwards, and required nothing more but gruel, milk and farinaceous diet, and soon recovered.

In the early stage of English cholera, the sickness and purging usually cease after the operation of the emetic; the ipecacuanha appears to possess a specific effect, *sui generis*, on the primæ viæ generally. I have often noticed the peculiar power it has in allaying any inordinate action of the intestines, having apparently a sedative or tonic effect. In two or three hours after the emetic, I have thought it necessary to give a grain of opium with five grains of the blue pill, followed by a powder of two scruples of the sulphate of soda, and one scruple of the powder of rhubarb in water, to assist the natural action of the bowels; afterward a simple saline effervescing draught every three hours; and weak tea, milk, well-boiled gruel, milk with arrowroot, sago, or rice, as diluents and nutriment. A second dose of the rhubarb powder is sometimes required. In cholera, the emetic is best given in cold water, after an attack of vomiting; by this means the emetic usually remains five or ten minutes on the stomach, a sufficient time to secure its effects. Patients often object to taking an emetic in cholera, urging that nothing remains in the stomach and bowels after having been so severely vomited and purged; but when they understand that the cause of the disease still remains, and must be removed before there is an amendment, they are willing to submit to the treatment. Should spasms and other severe symptoms be present at any stage of the disease, I would pursue the same emetic treatment. My confidence in the effects of an emetic dose of ipecacuanha has been fully confirmed in such cases, after a practice of more than half a century.

Fever.—Since the year 1813, I have been in the habit of giving an ipecacuanha emetic in all cases of fever at the commencement of the disease with the most beneficial effect, and have often found that attacks of the complaint were warded off, and in some cases effectually checked. In most cases of fever, I believe the disease is materially mitigated, and in very severe attacks fatal consequences are prevented. It is of the

first importance that the emetic be given early; indeed, I know of no other cases in which the old adage—*principiis obsta*—is so truly verified.

The following from Dr. T. K. Chambers's *Renewal of Life*, p. 47, is most worthy of attention, and fully accords with my opinion and practice, as to the use of emetics in fever. "I am inclined to think that the usual path by which the poison enters is the digestive canal. It is mixed with the saliva and carried down into the stomach, when it possibly may accumulate and be multiplied in the gastric mucus. At an early period after the poison has begun to act upon the system, the fever may be arrested by emptying the stomach; and thus apparently preventing the whole dose from being taken up. Those who have watched my practice will have seen several instances of the success of this treatment; the fever cut short and convalescence entered upon immediately, with its painless debility with emaciation gradually passing away."

My treatment of typhus and typhoid fever, was to secure free ventilation, the use of disinfectives, and cleanliness; to pay particular attention to the digestive organs, commencing with a full emetic dose of ipecacuanha, and giving aperient and saline medicines. In the sinking state of the disease, the sulphate of quinine, with the compound infusion of orange-peel, was taken three times a day; and the strength was sustained by mild nutriment, arrowroot, milk in various forms, beef tea with sago, rice, bread, etc.—a little given at very frequent intervals, night and day; the result has been most successful. I have had no reason to resort to wine, or any other alcoholic stimulant.

Erysipelas.—I have nearly in all cases of simple acute erysipelas commenced the treatment with an emetic of ipecacuanha, and aperients, finding generally a disordered state of the digestive organs. An emetic has also considerable power in checking the inflammation. A decided application of the nitrate of silver, as directed in the third edition of my work on that subject, has an immediate effect in subduing the erysipelas; and, if there be any constitutional symptoms, they simultaneously cease. All inflammation, on which the nitrate of silver has been properly applied, is effectually subdued in four days. There is much truth in the observation of the celebrated Abernethy: "Subdue local irritation, and regulate the action of the digestive system, and you control all controllable diseases."*

(To be concluded.)

REPORTS

OF

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS OF GREAT BRITAIN.

THE INTERNAL USE OF CARBOLIC ACID.

OF the numerous remedies which have been brought before the notice of the profession of late years, carbolic acid takes a very prominent position. Like most new and active agents it has been vaunted as a remedy for nearly everything—as a very panacea, indeed. Used in the form of a dressing, and applied to exclude the air, as recommended by Professor Lister, of Glasgow, it has certainly found favour among a good many surgeons. As a lotion it offers many advantages both as a deodoriser and stimulating application to open wounds, and diseased mucous membranes, as the vagina and the nasal passages in ozæna. That it should, however, be promiscuously prescribed in almost every ailment under the sun, and that the success of every case which gets well under its use be attributed to its influence; that it should be even thrust before the public and the profession as a specific in typhoid fever without trial in a large number of cases, is calculated to mislead members of our profession, who, after a few failures, may probably throw up in disgust a remedy which may yet turn out on further trial a valuable therapeutic agent. That success has followed its employment in several affections the following notes tend to show. It will remain to be seen how far it will continue to hold the prominent position assigned to it now as a therapeutical agent. Creasote, of almost identical composition in many respects, is thought by some to be more efficacious as a remedy; others again, have found carbolic acid the more effective agent; as will be seen, Dr. Murchison and Dr. Buchanan believe that carbolic acid has no specific effect whatever in typhoid fever, and, so far as they have observed, in any one continued fever.

At the FEVER and MIDDLESEX HOSPITALS, Dr. Murchison has used carbolic acid extensively in the treatment of both typhus and enteric fever. He has not obtained, however, from it the good results which he expected, and which have been ascribed to it. His experience leads him to believe that a great deal of what has been