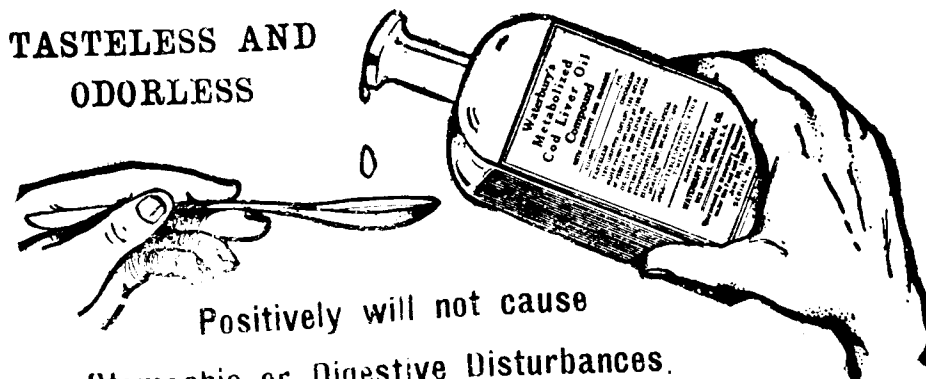


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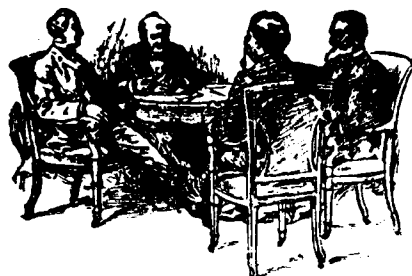
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SALPINGO-APENDICITIS.

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Salpingo-appendicitis or "matted tube and appendix" as it is commonly called by Colonel Giffard may now be reckoned as a well established new disease. Although there are a few instances in which this condition was observed on the table during an operation undertaken for some other condition, still so far as I am aware Col. Giffard is the first who accurately diagnosed this disease and subsequently verified it by abdominal section undertaken for the cure.

In a consecutive series of 150 abdominal sections performed during the current year in the gynaecological section of the Government Maternity Hospital, "matted tubes and appendix" was diagnosed in 18 cases. Out of these 18 cases, 17 turned out to be genuine cases of salpingo-appendicitis. There was disappointment in one case but it was not much, the appendix was there inflamed and angry looking but only the adhesions between it and a morbid tube were wanting.

In salpingo-appendicitis which is always secondary either to appendicitis or salpingitis, the right fallopian tube and the vermiform appendix are bound down to each other and sometimes to the neighbouring pelvic organs by a net work of inflammatory fibrous tissue.

Etiology:—This is essentially a disease of the child bearing period. It is met with in the married as well as in the virgins. In the latter appendicitis is the common exciting cause while in the former it is salpingitis caused by gonorrhoea, septic infection after delivery or abortion, careless use of the sound, the tent or the curette etc. Fully 50% of our cases gave a history of having suffered from a white discharge for months together before the present complaint began. The time that elapses between the contraction of gonorrhoea and the development of this disease varied from 6 months to 2½ years. Almost all of them were neglected cases of gonorrhoea i.e. cases that did not submit themselves for any treatment.

In many the white discharge had ceased when this disease was fully established. A few had it on still, but the microscopical examination revealed no gonococci but only the ordinary pyogenic organisms.

Septic infection after delivery or abortion is generally recognized to be the most frequent cause of salpingitis but invariably the patient dies of septicaemia before the inflammatory process had time to develop fibrous adhesions. Puerperal sepsis that leads to matted tube and appendix generally sets in late in the lying-in period a fortnight or even a month after delivery. The following case illustrates this well. Mrs. E. gave birth to a child in our hospital on the 30th November, she was discharged on the 10th

December. Mother and baby doing well On the 17th January she was readmitted with fever and pain in right iliac region. Matted tube and appendix was diagnosed and abdominal section performed when the following condition was noted. "A large mass of appendix, right tube, ovary and much thickened broad ligament". Catarrhal or recurrent appendicitis very often leads to the formation of adhesions with the neighbouring abdominal viscera. The normal position of the vermiform appendix is in the iliac fossa above the brim of the pelvis but instances are by no means uncommon in which the appendix is found lying within the pelvis or hanging over the pelvic brim with its free end in contact with the right fallopian tube. An inflammatory attack of the appendix will in this way easily involve the adjacent tube and ultimately lead to the formation of fibrous adhesions. Cullingworth, by the study of frozen sections has shown that during the later part of pregnancy, the uterine appendages and the broad ligaments are elevated completely out of the true pelvis; and the consequence is that they are brought at that time into close contiguity with the caecum and its appendix. If the appendix then happens to be inflamed the morbid process spreads itself to the tube.

Every case of appendicitis is due to an infection from bacterial invasion of the tissues through a lesion of the mucosae caused by the presence of foreign bodies, Enteroliths and faecal concretions.

Geo. F. still states that appendix vermiformis is a common habitat of the thread worms. Their presence in the appendix causes a catarrhal condition with great swelling and thickening of its walls.

Our own cases fully illustrates is: Nagamah aged 30 years had one

child 12 years ago—was admitted on the 7th of March with severe pain in the right iliac region.

P. V.:—Under chloroform "something that feels like the appendix and the right tube enlarged can be rolled about between the fingers".

On 9th March abdominal section was performed and the following conditions noted:—Right tube adherent down at the bottom of Douglas's pouch but not apparently diseased. Appendix enlarged and thick and when removed was found to contain a round worm and many thread worms".

Pathology:—Salpingo-appendicitis is essentially a product of inflammatory reaction due to septic infection by various micro-organisms:—The most important among these are the gonococci, streptococci, staphylococci and the bacterium coli communis.

The first three have their seat of action in the uterine tube while the last works its way through the appendix. There are many points of similarity in the pathology and the clinical course of the two affections. In both the appendix and the fallopian tube we have a hollow muscular tube with narrow lumen lined by mucous membrane. Each communicates with viscus from which septic organisms are able to obtain access and set up inflammation of the mucous and other coats of the tube leading to a closure of their natural openings. In this way a collection of irritant material may take place in a closed cavity when it may give rise to chronic pains or discomfort or may remain entirely latent. From time to time, from slight causes or for no obvious reason, acute attacks of inflammation are set up and as a result of these we get a more or less

dense net work of fibrous tissue entangling in its meshes the appendix and the tube with some of the pelvic viscera in its neighbourhood.

Gonococcal infection:—Sexual intercourse affords the most common opportunity for infection by this micro-organism. The usual site of inoculation is the urethra. From this starting point it gradually spreads to the vaginal mucous membrane giving rise to a yellowish purulent discharge. After a varying interval the gonococci travelling up the cervical canal attack the uterine mucous membrane giving rise to endometritis and ultimately reach the tubes where their further progress becomes more or less arrested in a majority of cases by the closure of the openings of the tubes. The progressive steps of the invasion of the gonococcus from the external genitals to the pelvic organs have been traced successfully by different gynaecologists. Kelly mentions a case of pyosalpinx operated on by him in which he demonstrated the presence of fine gonococci, in the uterine tube, in the uterus, the vagina, in Bartholin's glands, in Skene's tubules and in the urethra.

Professor Bumm says that the gonococcus grows only on columnar epithelium and the extension of the gonococcus infection from the urethra to the uterine tube is along the mucosa of the genital organs.

But Wertheim has shown that it is capable in some cases of penetrating deeply into the tissues and spreading by way of lymphatics and the blood vessels.

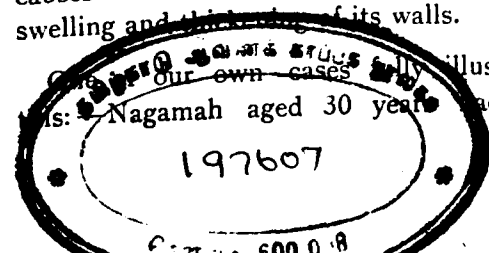
When the gonococcus reaches the peritoneum it loses much of its virulence and gives rise to only a mild form of localised peritonitis with or without the formation of pus.

Streptococcus infection:—Invasion by streptococcus usually occurs during a badly conducted parturition or abortion or surgical manipulations of female genital organs. In mild cases when the infection takes place late in the lying-in-period, the streptococcus spreads like gonococcus by continuity along the mucous surfaces.

But in severe cases of puerperal infection the streptococcus multiplies first in the fluids and on the surface of the uterine mucous membrane—it then invades the thickness of the uterine wall by way of the lymph spaces and reaches the peritoneum. Through serous membrane the streptococcus enters the peritoneal cavity where it sets up a varying degree of peritonitis. If the patient survives the infection spreads to the ovaries from their peritoneal surface and ultimately invades the uterine tubes through their peritoneal opening giving rise to varying degrees of salpingitis.

Infection by bacillus Coli Communis:—The colon bacillus is a normal inhabitant of the intestinal tract and under normal conditions it is quite harmless. When however the colon bacilli collect in a blind pouch like the appendix which probably has a stenosed exit they become very virulent and cause attacks of inflammation. If there is a lesion of mucosa they rapidly work their way into the deeper tissues. As a rule they spread by the lymphatic channels.

According to Gebhard, colon bacilli are readily conveyed to the vagina owing to the vicinity of the rectum and sets up decomposition within the uterus giving rise to offensive discharge. In these cases they generally act in conjunction with the streptococci their combination rendering the infection more virulent.



Changes in the Fallopian tube. :—When septic infection either gonorrhoeal or streptococcal extends from the vagina into the uterus and passes into the tubes the earliest change produced is an acute inflammation of the mucous membrane lining the tubes which becomes considerably swollen, the plicae are also enlarged and nearly fill the lumen of the tube, and there is a free secretion of a purulent or sero-purulent fluid. In mild cases this discharge usually escapes into the uterine cavity through the ostium if patent and the inflammation subsides, the tube returning to its normal condition.

In severe cases the openings of the tube become closed. The abdominal ostium is said to be the first to undergo this change. The fimbriae become swollen and adhere together. Next there is an exudation of plastic lymph which when organized binds the agglutinated fimbriae to the ovary and broad ligament and thus seals the abdominal opening of the Fallopian tube. The uterine ostium which is usually very narrow become obstructed by the swollen mucous membrane. When the two openings are thus blocked the inflammatory products go on accumulating in the cavity of the tubes, while the inflammatory process itself penetrates deeper into the structures of the tubes.

As a result of this the tube becomes thick, swollen and oedematous. As it thickens it also lengthens but being held in place by the meso-salpinx it often becomes markedly tortuous. In many cases the tube becomes bent on itself forming a loop or knuckle. Meanwhile the inflammatory process spreads to the serous coat giving rise to localised peritonitis. The most characteristic feature of which is the exudation of

plastic lymph. This leads to the rapid formation of adhesions which are at first thin, light or vilamentous, but later on as a result of recurrent attacks of inflammation they become dense and organized. The amount of adhesions varies in different cases but as a rule they are most abundant and well developed in long standing cases and are met with in considerable numbers near the fimbriated extremity of the tube binding it down to the lateral wall of the pelvis and entangling in its meshes the appendix vermiformis and the ovary. In some cases this lump formed by the agglutination of the tube, appendix and ovary becomes adherent posteriorly to the rectum and in front to the omentum, caput coli and a few coils of small intestine. In the early stages the uterus is normal in position and is free from adhesions. But in long standing cases the inflammatory mass formed by the tube, ovary and appendix very often displaces the uterus to the opposite side

Changes in the vermiform appendix. :—Catarrhal or recurrent appendicitis is the one that invariably leads to the formation of matted tube and appendix.

Gangrenous, perforative and other virulent forms of appendicitis as a rule lead to death of the individual from septic peritonitis before the inflammatory process had time to develop protective adhesions.

Catarrhal appendicitis is invariably caused by foecal concretion or worms. These foreign bodies not only lead to stagnation of the appendicular contents but also set up inflammation of its mucous membrane by mechanical irritation. In the meantime the colon bacilli become very virulent, invade the tissues of the appendix through an abrasion of the epithelial layer of the mucosa and cause great swelling and thickening of the

appendix. Later on the calibre of the tube is considerably reduced. Round cell infiltration takes place in the mucular coat making the appendix feel thick and resistant when palpated.

The serous coat becomes rough and covered with a plastic exudate which later on develops into fibrous adhesions between the appendix and caput coli. If the appendix happens to be hanging over the pelvic brim these adhesions bind it down to the broad ligament, ovary and the fimbriated extremity of the neighbouring fallopian tube. The ovary becomes enlarged up to double its normal size owing to the congestion and lymphatic stasis produced by the near neighbourhood of an inflammatory focus in the appendix.

The pathological changes in the fallopian tube are not well-marked. It simply becomes mixed up with the adhesions. The left side of the pelvis is always free.

Symptoms. :—The essential and outstanding symptom is pain in the lower part of the abdomen. During an acute attack it is so severe and agonizing as to require two or three hypodermic injections of morphia to keep the patient quiet. Pressure aggravates the pain and in some cases even the weight of bed clothes is intolerable.

In cases where the disease is tubal in origin pain usually sets in during the menstrual period and is gradual in its onset reaching its maximum intensity at end of 48 hours. It generally lasts for seven days and then subsides.

In cases of appendicular origin the pain sets in suddenly during the inter-menstrual period. Very often it comes on at night and is all over the abdomen radiating from the umbilicus. Later on it becomes localised to the region of appendix.

Nausea and vomiting. :—In a great majority of cases the pain is followed by nausea or feeling of retching and sometimes it causes actual vomiting. Very often the patient brings up only a little fluid but in extreme cases all food taken may be quickly rejected and there is such a continual feeling of nausea that all appetite is destroyed.

Fever. :—Elevation of temperature soon follows the pain and in severe cases it is preceded by a severe initial rigor. In mild cases temperature never runs above 102° F. but in more severe cases it reaches 104° F. After the third day it generally subsides but should it continue to remain persistently high it generally indicates that either pelvic cellulitis or general peritonitis has developed.

Pulse. :—When the pain is very severe the pulse rate is considerably increased to 120 to 140 per minute with all the characteristics of peritonism. But with the subsidence of pain the pulse rate usually falls. Should it remain raised combined with high temperature it generally indicates some grave complication.

Digestive organs are usually disturbed. The tongue is coated. Nausea and vomiting has already been mentioned. Appetite as a rule is poor. Flatulence may be troublesome. The bowels are invariably constipated. In appendicular cases the constipation is complete even the ordinary purgatives refuse to act. Some relief however can be obtained by large soap and water enemas. Movement of the bowels always aggravates the pain but a good motion is usually followed by considerable relief of the urgent symptoms.

Urine is scanty and high coloured. In cases of gonorrhoeal origin micturition is painful and frequent.

Dysmenorrhœa :—Severe pain just before and during periods is the principal complaint for which patients with matted tube and appendix seek admission to the hospital and in a majority of cases the pain is so agonizing that they will readily submit to any serious operation for its relief. Pain is due to pelvic congestion and is of a continuous aching character. It is generally lessened by recumbency and by lying still.

The discharge of blood is more profuse than usual and in cases of tubal origin is sometimes dark red in colour but not offensive.

Sterility is due to dysparuenia or pain on sexual intercourse and also the result of binding down of the ovaries and fallopian tube by concomitant inflammation.

Physical signs :—Position—Patient usually lies on her back with the right leg drawn up. She is unable to turn on her left side on account of the dragging pain.

There is usually some prominence on the right side of the lower part of the abdomen with a certain amount of rigidity of the corresponding abdominal muscles.

Pressure over the right ovarian region is very painful. A distinct tumour cannot always be made out but there is generally a sense of resistance or an ill-defined induration in the right iliac region.

Vaginal and Bimanual examinations are impossible without the administration of chloroform on account of pain they give rise to. The results of these will be described under the heading of diagnosis.

Changes in the blood :—During an acute attack the number of leucocytes is increased from 10,000 to 20,000. But the intensity of leucocytosis varies in different cases and also in the same case at different periods. In cases accompanied by pus formation there

is always a well marked increase in the percentage of the Polymorphonuclear leucocytes.

Diagnosis :—Of all the grave gynaecological diseases none is so frequently overlooked as matted tube and appendix. Many acute abdominal conditions commence in much the same way and thus lead to considerable difficulty in diagnosis at the beginning of the attack. Pain with vomiting and rapid pulse is found in almost every case of acute abdominal crisis. The attack of pain setting in just before or during menstrual period is the symptom which very often misleads a novice in diseases of women.

Eminent gynaecologists also at times are misled by cases of this kind. Macnaughton Jones mentions the case of a "patient who had been treated for uterine displacement by a distinguished gynaecologist abroad and within the same year by a London Obstetrician for the same condition; shortly before he saw her an eminent London Gynaecologist pronounced the case to be one of uterine myoma and another that of an inoperable malignant tumour. He considered it to be one of myoma possibly degenerating but operation proved it to be one of pyosalpinx with extensive adhesions."

Sampson Handley had a patient who had submitted without benefit to douching, blisters, tampons, and local applications to the cervical canal over a period of five years but was cured by appendicectomy.

The most common mistakes in diagnosis are :—(1) Failure to recognize the presence of organic disease of any description and considering the case to be one of spasmodic dysmenorrhœa.

(2) Misinterpretation of the significance and nature of the associated uterine displacement.

(3) Mistaking other diseases for matted tube and appendix as enlargements of the ovary—tumours of the ovary and broad ligament.

Very often a correct diagnosis can be arrived at only by repeated and careful study of the case in all its aspects. Previous history of the case though useful at times is very often misleading particularly among the natives. Many of them deny having suffered from gonorrhœa when a vaginal examination will reveal the presence of a yellowish discharge teeming with gonococci.

Questions with reference to the previous attacks of appendicitis are quite hopeless with these whose memory does not go beyond ten days of the past. The person who undertakes to diagnose this disease among this class of patients must be an expert in vaginal and bimanual examinations. Both these examinations are only possible under a general anaesthesia after the bowels have been emptied by a copious enema. Attempts to perform them without it are futile on account of the severe pain they give rise to and also of the rigidity of the abdominal muscles overlying the diseased structures.

Vaginal examination :—The first landmark to be recognized by the fingers is the cervix which is usually felt as a knob. Very often it is normal in position but in some cases it is slightly displaced to one side and has lost much of its mobility. The right fornix is full and an indefinite mass can be felt there. The left fornix is usually free.

Bimanual examination :—The fundus of the uterus is displaced to the left, a little retroverted or normal in position but it is more or less fixed. A mass is felt in the right fornix which is cylindrical, elongated, and somewhat tortuous stretching from the side of the uterus, right across the pelvic brim to

the opposite side. In favourable cases the morbid appendix or the tube can be rolled about between the fingers of the two examining hands and when this has been detected it settles the most crucial point in the diagnosis of mixed tube and appendix. The left side of the pelvis is usually free.

Prognosis :—The usual complications that are responsible for the high mortality of these cases are general peritonitis, pelvic abscess, and acute intestinal obstruction. Should the patient escape all these she will have to lead a life of helpless chronic invalidism. But the magnificent results achieved by modern abdominal surgery in the hands of skillful gynaecologists have completely revolutionized the gravity of these cases.

with the exception of Wertheim's operation for cancer of cervix salpingo-appendicectomy is the most difficult one in the whole range of Gynaecology entailing considerable anxiety, skill and labour on the part of the operator. But all these are more than compensated for by the new lease of life which the patient derives.

Treatment :—Any other treatment than operation is useless and not worth discussing. "Section or nothing" is the common advice of Col. Giffard for these patients. It is a real pleasure to see these patients walking out of the hospital wishing every one they come across, when only a month before they were brought in a bullock bandy all doubled up in one helpless mass requiring the assistance of the lascars to unload and carry them to the Gynaecological section.

As soon as the diagnosis of matted tube and appendix is established and a radical operation is decided on the next step is to get the patient as soon as possible in a fit condition to undergo the section.

The following is the routine treatment of these cases in the Government Maternity Hospital:—During an acute attack the patient is kept at perfect rest in bed; the bowels freely opened by large soap and water enemas or saline purgatives. Turpentine stoupes or application of hot water bottles to the lower part of the abdomen are usually used to relieve pain. When however the pain is agonizing hypodermic injections of morphia are given particularly during night. If the patient is not in her period hot lysol douches and Ichthol tampons are used twice daily. When however the period is on and the discharge profuse and painful a mixture containing Liq. Sedans and morphia is ordered. Diet is restricted to slops. Fever is controlled by ice cap and diaphoretic mixture. Headache promptly yields to Phenacetin and Caffeine citras.

When the acute attack has passed off under the above treatment, all the efforts are next directed towards bracing up the general condition of the patient as much as possible. For this purpose she is allowed a very liberal diet. Many of them particularly the working classes who are generally admitted in a condition of starvation are actually feasted till the day previous to the date fixed for section. A free use of starchy and saccharine articles in the dietary is to be preferred in as much as this leads to an abundant store of glycogen in the liver upon which the system will have to make frequent inderts during the period of starvation immediately after the operation.

As the operation is a prolonged one lasting for an hour or more and the chief danger to life is from cardiac failure every attempt should be made to strengthen the heart as much as possible. The drugs used for this purpose are digitalis and strychnine.

Administration of digitalis by the month invariably causes diarrhoea before its full effects on the heart are produced while strychnine by mouth takes time to act. The best way of employing both these is by injecting hypodermically. Injections of digitalin 1/100 dissolved in 10 minims of brandy and liq. strychnine B. P. 10 minims are used daily morning and evening till the desired effect on the pulse is produced. Generally 20 injections of each are sufficient but in weak cases 30 or more may be necessary.

As a precautionary measure it is of utmost importance that the intestinal worms which many of these patients harbour should be got rid off. For this purpose they should have a course of anthelmintics. The usual routine practice is to give them over night a powder containing 4 grs. of santonine, 3 grs. of calomel and 5 grs. of soda bicarb. Next morning the same powder is repeated followed immediately after by an ounce of castor oil. If any worms are passed the treatment is repeated after an interval of 3 days. In addition to the careful examination of the patient with a view of detecting any lesion of the heart or lungs; an analysis of the urine is also essential. The functions of the skin should be promoted by daily hot water baths with a liberal use of soap. Particular attention should be paid to the hair and all lice got rid of by soaking them in Corrosive sublimate solution and free combing.

*Preparation of the patient:—*The day before the operation the patient is given a mild dose of castor oil just to secure one or two good movements of the bowels but no free purgation is to be indulged in. In the evening of the same day the pubic hair is shaved and a good hot water bath is given.

The patient gets her usual diet. The old method of skin preparation over night, by scrubbing it with soft soap and a nail brush, rubbing in turpentine and the application of a gauze pad soaked in a solution of strong corrosive sublimate solution not only irritates the skin but is a source of discomfort to the patient very often leading to a sleepless night at a time when good sleep is of utmost importance.

All this is given up and the best results are obtained by painting the skin just before the operation by a 4 per cent solution of iodine in acetone. Application of a saturated solution of picric acid in spirit also gives equally good results. At 5 a.m. in the morning the patient is given a pint of mutton broth. 10 minims of liq. strychnine is injected hypodermically just before the operation to prevent shock.

Injections of morphia just before anaesthesia with a view to economizing the amount of chloroform used, very often lead to arrest of respiration during the course of prolonged operation and hence this practice is given up.

Urine must be drawn off by the nurse a few minutes before starting the operation. The anaesthetist must be an expert in his work. He must know the different stages of the operation when deep narcosis is absolutely essential. He must be bold enough to push chloroform when necessary to the end of third stage characterised by widely dilated and fixed pupils and sighing respiration. Any timidity on his part in securing this deep anaesthesia when necessary will not only prolong the operation but also render it more difficult and risky. Administration of chloroform with a Junker's inhaler is not suited for this purpose. The ideal instrument is Roth-Druger apparatus in which the anaesthetist has complete control of his dosage and can with a touch of

the finger increase or diminish the percentage of chloroform vapour. Another advantage of this apparatus is that a mixture of oxygen and chloroform vapour is used thus enabling the anaesthetist to obtain and maintain an anaesthesia which would either be dangerous or impossible without the use of oxygen combined with the anaesthetic.

Operator and his staff.—The performance of salpingo-appendicectomy is one of great difficulty from the complexity of adhesions and there are few abdominal operations requiring greater judgment in dealing with the difficulties of its performance than matted tube and appendix.

A successful result is attained by due attention to a number of small details which an experienced operator finds out for himself in the repeated performance of the operation.

"The best man to do an operation is the man who, while still in the possession of his faculties has yet done the operation a great many times before" (Herman). This applies with the greatest force to the operation of salpingo-appendicectomy.

Assistant, should be one who is thoroughly used to the ways of the operator. He must be quick in anticipating the assistance required of him at the different stages of operation. But he must be very reserved in his own suggestions or remarks.

Man at the instruments, must arrange the instruments in a definite order in the tray. He must be capable of handing over the right instrument at the right moment and thus save trouble of the operator in calling for it. As each instrument is handed back he must at once put it in its proper place in the tray. He must be quick in threading needles and must also know the correct way of handing them to the operator to prevent injury to his fingers. He must

avoid as much as possible fingering the sutures and ligatures.

Nurses.—Of these at least 3 are necessary. One for the sterilizing room, one for holding the basin of sponges and a senior one for keeping account of the sponges and pieces of gauze used and also for washing and replacing the soiled sponges and receiving the necessary things from the sterilizing room.

Requisites for operation.—

- (1) Scalpels (sharp) 2.
- (2) Dissecting forceps 3 (2 large and 1 small).
- (3) Artery forceps (Spencer Well's) 1 doz.
- (4) Artery forceps medium 6.
- (5) Artery forceps (large) 4.
- (6) Scissors (a) long, curved on the flat. (b) small straight. (c) angular.
- (7) Blunt dissector.
- (8) Abdominal retractors (Syond's small and large).
- (9) Vulsellæ 2 pairs.
- (10) Pedicle needle.
- (11) Needle holders 2 pairs.
- (12) Needle in different sizes (Bonney's and Hagaden's).
- (13) Towel clips 4.
- (14) Sutures and ligatures. Silk Chinese twist No. 2 and 4 silk worm gut thick.

Trays for instruments, three basins for sponges, pieces of gauze and artificial sponges with long pieces of tape attached (a definite number 6 of each). Drainage tubes in different sizes, sterilized towels 6, dressings and a many tailed bandage. There must also be an abundant supply of sterilized water, saline solution and the usual anti-septic lotions.

Operating table should be one admitting extreme Trendelenburg's position (an angle

of 33 to the floor). It must be fitted with shoulder rests to keep the patient in position in the above head downward position. It must also have an arched horizontal bar about a foot and a half from the top, to which the arms of the patient can be tied to prevent temporary paralysis.

Operation :—Abdominal incision. Before commencing the operation it is necessary to ascertain that the bladder is empty and the patient is sufficiently "under chloroform." The length of the incision depends upon the thickness of the abdominal wall. Usually a vertical 4" incision is sufficient. It is made in the median line between the umbilicus and symphysis pubes with a broad sharp knife.

Generally two or three hold sweeps of the knife through the skin and subcutaneous fat are sufficient to expose the underlying linea alba. This in its turn is next incised and the sub-peritoneal fat and connective tissue exposed. This is next grasped by two pairs of dissecting forceps and the incision made between them carefully, so as to expose the peritoneum—The peritoneum is next lifted up in the same manner and a small cut made through it just sufficient to admit the tip of the index finger and with this as a guide the peritoneum is divided with a pair of angular scissors the whole length of the skin incision. The whole wound is next wide opened with a pair of Segond's retractors and the table turned into Trendelenburg's position. If the patient is now under deep anæsthesia all the intestines gravitate towards the diaphragm and the operator obtains a clear view of the pelvic cavity and its contents. Sometimes it so happens that the room so obtained is not sufficient for free manipulations inside the abdominal cavity.

In such cases Col. Giffard generally prolongs the original skin incision well over the

Mons Veneris and then divides vertically the tendon of the rectus right down to its insertion to the symphysis pubes. If care is taken to see that the bladder is empty it is surprising to find that no injury is done to this viscus.

In a few cases that required still more room a transverse cut about 2 inches long had to be made on the right side at right angles to the original vertical incision. The edges of the wound in these cases were held apart by means of stout silk sutures so as to obtain a good view of the field of operation. So far no ill-effects have followed the use of these transverse cuts.

Hæmorrhage from the incision is not much and can be easily controlled by the application of a few artery forceps. But if there is much inflammatory mischief inside the capillary oozing from the incision is often troublesome.

Inspection of the appendix and the tube.—A proper incision is made, edges of the wound well retracted and the table put in its extreme Trendelenburg's position. The next step is to make by sight and touch a careful survey of the pelvic organs and the appendix with a view to ascertain their relations to each other and the amount and consistency of the adhesions that bind them together. It is also essential at this stage to detect the presence of any collections of pus.

Appendicectomy.—As soon as the appendix and the tube are located and the condition and extent of the inflammatory mischief ascertained, the operator next proceeds to isolate the field of action from the general peritoneal cavity by packing it all round with pieces of sterilized gauze. Usually two or three pieces are used. These have long bits of tape attached to them and as a precautionary measure a pair of artery forceps is applied to the end of each. The

appendix is next seized between the thumb and the forefinger of the left hand and freed as much as possible from its adhesions by gentle manipulations of the right index finger. The meso-appendix is sought for, tied with a fine silk ligature and divided between it and the appendix. At the base of the appendix a circular incision is made through the peritoneum only and the serous membrane thus divided is turned back a little and the appendix tied at this point with a fine silk ligature. A clamp forceps is applied a little further off and the organ divided between the two.

The caecal end is touched lightly with the point of a Playfair's probe dipped in pure carbolic acid and then buried by a series of Lumbert sutures passing through the wall of the caecum around the stump of the appendix.

If the remaining adhesions are few and thin the body of the appendix can be easily shelled off; but if the tip of it is involved in a dense mass of adhesions which also entrap the fimbriated extremity of the fallopian tube and the ovary it had better be left alone till a later stage of the operation; when it is removed together with the tube and ovary all in one matted mass.

Hæmorrhage from the broken down adhesions particularly in the vicinity of the caput coli is very troublesome and must be completely controlled before proceeding any further with the operation.

Salpingectomy.—In cases where the Omentum is found to be adherent to the pelvic viscera it must be carefully detached. Sometimes it may be necessary to cut away pretty big adherent pieces of it before reaching the morbid tube and ovary. All intestinal adhesions must also be carefully

avoid as much as possible fingering the sutures and ligatures.

Nurses.—Of these at least 3 are necessary. One for the sterilizing room, one for holding the basin of sponges and a senior one for keeping account of the sponges and pieces of gauze used and also for washing and replacing the soiled sponges and receiving the necessary things from the sterilizing room.

Requisites for operation.—

- (1) Scalpels (sharp) 2.
- (2) Dissecting forceps 3 (2 large and 1 small).
- (3) Artery forceps (Spencer Well's) 1 doz.
- (4) Artery forceps medium 6.
- (5) Artery forceps (large) 4.
- (6) Scissors (a) long, curved on the flat. (b) small straight. (c) angular.
- (7) Blunt dissector.
- (8) Abdominal retractors (Syond's small and large).
- (9) Vulsella 2 pairs.
- (10) Pedicle needle.
- (11) Needle holders 2 pairs.
- (12) Needle in different sizes (Bonney's and Hagaden's).
- (13) Towel clips 4.
- (14) Sutures and ligatures. Silk Chinese twist No. 2 and 4 silk worm gut thick.

Trays for instruments, three basins for sponges, pieces of gauze and artificial sponges with long pieces of tape attached (a definite number 6 of each). Drainage tubes in different sizes, sterilized towels 6, dressings and a many tailed bandage. There must also be an abundant supply of sterilized water, saline solution and the usual anti-septic lotions.

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Generally two or three bold sweeps of the knife through the skin and subcutaneous fat are sufficient to expose the underlying linea alba. This in its turn is next incised and the sub-peritoneal fat and connective tissue exposed. This is next grasped by two pairs of dissecting forceps and the incision made between them carefully, so as to expose the peritoneum—The peritoneum is next lifted up in the same manner and a small cut made through it just sufficient to admit the tip of the index finger and with this as a guide the peritoneum is divided with a pair of angular scissors the whole length of the skin incision. The whole wound is next wide opened with a pair of Segond's retractors and the table turned into Trendelenburg's position. If the patient is now under deep anæsthesia all the intestines gravitate towards the diaphragm and the operator obtains a clear view of the pelvic cavity and its contents. Sometimes it so happens that the room so obtained is not sufficient for free manipulations inside the abdominal cavity.

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The caecal end is touched lightly with the point of a Playfair's probe dipped in pure carbolic acid and then buried by a series of Lumbar sutures passing through the wall of the caecum around the stump of the appendix.

If the remaining adhesions are few and thin the body of the appendix can be easily shelled off; but if the tip of it is involved in a dense mass of adhesions which also entrap the fimbriated extremity of the fallopian tube and the ovary it had better be left alone till a later stage of the operation; when it is removed together with the tube and ovary all in one matted mass.

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Salpingectomy.—In cases where the Omentum is found to be adherent to the pelvic viscera it must be carefully detached. Sometimes it may be necessary to cut away pretty big adherent pieces of it before reaching the morbid tube and ovary. All intestinal adhesions must also be carefully

dealt with, dividing between two ligatures when necessary.

Next the uterus is grasped with a pair of vulsellum forceps gently drawn up by the assistant. The uterine end of the tube now comes into view and the operator passes his right index finger along its under surface gently breaking the adhesions and also feeling for any collection of pus. Removal of the tube is next started by tying it off with a silk ligature near the uterine end, a clamp forceps is applied a little further off and the tube divided between the two. The ovarian artery as it enters the uterus is also divided between two ligatures. The fallopian tube now held by the forceps is gently lifted up by the left hand while the fingers of the right hand are used to gently detach it from its bed of adhesions as far as the ovary. A careful examination of this organ is now made. If healthy it is left alone but if cystic or otherwise disorganized, its ligament is tied and cut off. The main ovarian artery is also divided between two ligatures as it enters the broad ligament. The matted mass consisting of the tube, ovary and the appendix can now be easily shelled off by working with the fingers alone, but no violent tearing is to be indulged in on any account. Unyielding adhesions must be divided with scissors between the two ligatures.

All bleeding points are next attended to. They are all tied with fine silk ligatures. No catgut is used at all. The raw surfaces of the broad ligament are brought together with a few interrupted silk sutures.

All pieces of gauze and sponges used in damping back the intestines etc., are removed. The field of operation is carefully inspected to make sure that all bleeding has been arrested, before closing the

wound. The table is next put in its normal position.

Closure of the wound.—First the account of the sponges and gauze pieces used is checked then the peritoneum is stitched from one end to the other by a continuous fine silk suture. Next the muscles and remaining tissues are brought together by three or four through and through sutures, thick silk being usually employed for this purpose. Finally the skin is united by a number of interrupted silk worm gut sutures.

Before all the sutures are tied it is the duty of the anaesthetist to give the patient a quarter grain of morphia H. D.

Drainage.—If the operation is perfectly aseptic no drainage is employed. On the other hand if pus is encountered during the course of operation or if there is reason to expect a foecal fistula from injury to the gut, drainage is employed. The following is the method which has given excellent results. A piece of sterilized gauze about 8" long twisted several times round its longitudinal axis and two pieces of India rubber tubing of the same length one of them having a number of holes cut into it are introduced side by side into the lowest part of the pelvic cavity and the ends are brought out through the lower end of the wound which is then stitched up as usual. The piece of gauze sucks up all the discharge by capillary action and allows it to escape through the tubes lying by its side. When necessary the cavity can be irrigated with sterilized water by passing it through the tube without holes while the other with holes serves well as a discharge outlet.

The gauze drain is usually removed on the third day under ethyl chloride anaesthesia if necessary. Tubes are retained for a

longer period according to the requirements of each case.

Dressings.—These usually consist of five or six layers of sterilized gauze and a thick pad of absorbent wool kept in place by a tight many-tailed bandage. In uncomplicated cases dressings are left undisturbed till the 10th day of operation when they are removed along with the wound stitches.

After-Treatment.—Two chief causes of death after salpingoappendectomy are heart failure and intestinal paralysis. The best way to prevent the first is to let the patient have hypodermic injection of strychnine and digitalin twice a day for a week before the operation. The employment of these drugs and also of pituitary extract when the shock is fully developed is not only useless but is very often followed by disastrous results. On the other hand a pint of warm saline solution thrown into the rectum after the patient is removed to her bed from the table is very efficacious in rallying the patient from shock. The foot of the bed is at the same time raised on blocks and hot water bottles applied to the extremities. For distension of abdomen from intestinal paralysis movement of the bowels must be secured as soon as possible. Purgatives given by mouth, too early are very often vomited and even when retained either act slowly or not at all. Considerable relief is often obtained by passing a flatus tube well up the rectum every six hours. In ordinary cases an ounce of castor oil given by mouth 48 hours after the operation and followed a little later by soap and water enema will very often bring about two or three good motions. If distension is very troublesome an ounce of turpentine is added to the enema. The discovery of a hypodermic purgative will be a blessing for this troublesome complication.

Urine has to be drawn six hours after the operation. After that the patient is encouraged to pass it herself in the bed pan.

Feeding.—For the first 24 hours after the operation the patient gets nothing except a tea spoonful of hot water occasionally, if she suffers much from thirst. But if a saline injection per rectum is given immediately after operation and if necessary, the need for water by mouth is very little. If there is much retching or sickness nothing is given by mouth till all this subsides. On the second day after operation the patient is given an ounce of milk diluted with an equal quantity of water every two hours. On the third day coffee and tea are allowed in addition to milk. From the 4th day onwards after the bowels have freely moved dietary is left to the choice of the patient and the condition of her appetite. Light broths, clear soups, toast and butter, tea and coffee, rice and soojee conjees are the items that are in frequent requisition.

As constant lying flat on the back without a change of position gives rise to cramping pain the patient is allowed even on the very day of operation to turn into any position she fancies. On the second or third day she is propped a little with pillows or a large jack towel made into a sort of cradle by tying one end to the horizontal bar at the head of the cot and the other to the centre of the frame of the bed. From the fifth day onwards they are allowed to sit up in bed. After removal of sutures if the wound has healed by first intention they are allowed to walk. At the end of three weeks they are discharged from the hospital with two abdominal binders to be worn for three months.

Cases. 1.—Muniamah, 21 years old, pariah by caste, married six years ago, no

pregnancy, was admitted on the 5th May '10 with severe pain and tenderness in the lower part of the abdomen, fever and persistent headache, constipation, and difficulty in passing urine. Periods painful, pain setting in 3 days before the period and lasts for about six days. Doesn't give a history of gonorrhoea. Condition on admission:—Temperature 101—pulse 108 fairly good volume, tongue dry and brown—abdominal muscles rigid, tenderness and fullness in the right iliac region. P.V.:—under chloroform—Uterus is retroverted—right side of the uterus occupied by tumour pushing the uterus to the opposite side—Tube and appendix mixed for section. Section notes:—A large right side pyosalpinx mixed up and matted to appendix, tube and appendix removed with considerable difficulty, Left side normal—gauze drain left in and abdomen closed with six through and through silk sutures. Recovery uninterrupted—was discharged from the hospital on the 5th July '10.

2. Miss M. B.—31 years old—admitted on the 20th October '09 for excruciating pain in the right iliac region—Periods regular lasting for four days. Section notes:—A very bad case of ulcerating chronic appendicitis matted with caput coli and the right tube—The caput coli is very soft and much inflamed—the right tube is as big as two fingers—the mass could not be properly dissected out through the central incision so a transverse one of two inches to the right side was added. The tube and appendix were dissected free and removed. A piece of drainage tube and piece of gauze left in, wound closed with through and through thick silk sutures. Most rapid recovery, patient discharged on the 19th day of the operation.

Mrs. J. F. aged 20 married two years ago,

confined in this hospital six weeks ago, admitted on the 17th January 10 for severe pain in both iliac regions and fever for the last one week. Operation notes:—A large matted mass of appendix, right tube and ovary and much thickened broad ligament, the appendix was the exciting cause; all were removed, left side healthy, gauze drain left in and abdomen closed in the usual way. Recovery uneventful. Discharged on the 36th day of the operation.

4. Ethirajulu amah 25 years old, married 10 years ago, has only one child 9 years old, admitted on the 12th March '10, for severe pain in hypogastric region and inability to stand erect. Periods painful but regular history of gonorrhoea. P.V.:—Under chloroform—There is a nodular mass to be felt to the right and somewhat behind the uterus in the region of the appendix. Section notes:—Appendix is oedematous and very friable, adhesions between the right tube, ovary and intestines broken down by the finger and appendix removed; gauze drain left in as there was pus. Recovery. Patient was rather bad till the 4th day of operation. After the movement of the bowels she got on well and was discharged on the 20th of April '10.

5. Mrs. M. B. 28 years old, married 11 years ago—has 3 children—miscarriages 3—last confinement 3 years ago—admitted on the 15th January '10 for severe pain in the lower part of the abdomen becoming worse during periods—white discharge present. P.V.:—by the Superintendent—a large tender right tube and ovary left side apparently normal. Section notes:—The abdomen opened in the middle line, there was much bleeding indicative of subjacent inflammation. The appendix was found matted up with the right tube which was deep

in Douglas's pouch behind the uterus and there was a large abscess at the bottom. The appendix and tube were removed with great difficulty and much bleeding. The abscess easily packed with gauze and the abdomen closed with continuous silk suture for the peritoneum and interrupted through and through silk sutures for the remainder of the abdominal wall. Recovery uneventful except for slight suppuration set up by the silk suture used for the peritoneum which promptly subsided when the offending cause was removed.

WOMEN'S MEDICAL SERVICE.

The following Press *Communique* has been issued by the Office of Central Committee, Countess of Dufferin's Fund:—Women's Medical Service for India:—The Lady Doctors whose names have been recently published as having been selected for the Women's Medical Service for India have been chosen by the Lady President, Her Excellency Lady Hardinge, and the Central Committee of the Dufferin Fund, either on account of their previous good service under the Dufferin Fund or of their special qualification and testimonials. This women's service is fixed at a maximum of 25 ladies. Of the 24 at present selected eighteen are Europeans or Anglo-Indians and six are Indians; two of these latter however have since intimated their inability to join the service. The selected ladies are now engaged at the following stations:—Miss F. B. Leach at Cawnpore, Miss A. L. Mackenzie, Gaya, Miss K. A. Platt, Calcutta, Miss D. E. Pratt, Benares, Miss H. Lauder, Srinagar, (Kashmir), Mrs. F. D. Barnes, Bhopal, Miss A. M. Watts, Agra, Miss J. E. George Akola, Berar, Miss H. J. C. Maclaren, Rangoon, Miss P. T.

Copeland, Lahore, Miss M. O'Brien, Lucknow, Miss M. L. Batho, Bettiah, Miss O. T. Leonard, Karachi, Miss K. M. O'Neill, Nagpur, Miss F. A. Scott, Nellore, Miss M. A. D. Naoroji, Shikarpur, Sind. Miss M. I. Balfour is posted to the Punjab. Miss M. A. Saw will work in Burma and Misses M. C. Murphy, M. V. Webb and Yamini Sen are at present on the reserve list. It will be noticed that it has been found unnecessary at the outset to recruit directly from England for the first appointment to the service and judging from the number of applications received and the increasing supply of medical women in India it seems likely that appointments will generally be made from among ladies in this country. This service will certainly tend to improve and strengthen the National Association for providing female medical aid to the women of India (Countess of Dufferin's Fund). Her Excellency Lady Hardinge is anxious that the general public should continue to support the Dufferin Hospitals in the same generous way in which they had done in the past, for while Her Excellency feels that this service will materially improve the work of the Association, the assistance of a generous public is urgently needed in aid of the steady expansion of medical relief among the women of India. Her Excellency selected a Special Committee which includes Mrs. Wemyss Grant to carry on the preliminary work of creating the Women's Medical College at Delhi. This Committee is now dealing with the plans being prepared by Mr. J. Begg, Consulting Architect, to the Government of India. A site in new Delhi of 57 acres has been allotted by the Government of India for the buildings of the College, Hospital, Hostels and staff Bungalows and it is hoped that in March next the foundation stone will be laid by Lady Hardinge.

A FEW ABNORMALITIES

noticed in the dissecting room of the
Madras Medical College.

C. RAMAMURTI, B.S.S.C.,

SENIOR DEMONSTRATOR OF ANATOMY.

This article does not claim to be anything more than a mere record of some of the common abnormalities usually met with in the dissecting rooms generally. But on the assumption that, in the interests of the beginner of anatomy, a few remarks will not in this connection, be out of place the following preliminary observations are made.

Some preliminary observations.

The students of the first year are raw from the arts college. There they acquire knowledge by studying in laboratories in which all the materials are prearranged for them. So they get into the habit of expecting things in a certain particular way or order without any deviation from those usually described in the books. The result of this habit or attitude, of expecting to find things always according to the description in the books, is that the students often get perplexed when they come across an abnormality, and the progress of their dissection is hindered. They are taken by surprise. They expect to find things as they did in their laboratories in the arts colleges. They forget that they are now carrying on their studies in Nature itself and not in laboratories. Many of them are not aware of the fact that things are not found in Nature as in a laboratory, that Nature indulges in anomalies more frequently than they expect; and that they must get mindful of this fact. Almost every subject dissected shows some

kind of abnormality or other, however trivial it may be. So primarily with the object of drawing the attention of the students to these points these observations are made.

One other point of importance in the interests of the students that may be touched on is this: The powers of observation of the students are well exercised when an abnormality presents itself. It demands a greater amount of concentration of attention from the students; thus, these have a beneficial effect from the point of view of education. They, further, develop an attitude in the student by which this alertness to note, without surprise, an abnormality when it presents itself, is kept up, while they dissect to find the normal things. This attitude is very necessary for a scientific medical practitioner as much as to any pure scientist. The success of a practitioner consists in the successful treatment of his cases; the successful treatment of his cases depends on his correct diagnosis of the disease; and the correct diagnosis of the disease depends on the accurate observation of facts without prejudice. This habit of observing accurately without taking things for granted can largely be developed in the dissecting room when abnormalities present themselves.

The abnormalities in Arteries.

In one instance, the *bifurcation of the abdominal aorta* was at the level of the intervertebral disc between the third and the fourth lumbar vertebrae instead of at the level of the lower border of the fourth lumbar vertebra.

In another subject, the *Vertebral artery* on the right side was noticed to spring from the right common carotid artery, instead of from the subclavian artery, at the level of the intervertebral disc between the seventh cervical vertebra and the first dorsal vertebra.

The common carotid arteries rarely give off any branches before their bifurcation into the external and internal carotid arteries.

In a third subject, the *Renal artery* on the right side was abnormal. Instead of one renal artery, there were two branches, both directly springing from the abdominal aorta at different levels. The superior branch gave rise to the right inferior phrenic artery which normally springs from the abdominal aorta. This artery, the inferior phrenic, gave rise to the superior and middle capsular arteries of the right side, while the inferior capsular artery sprang from the abnormal superior renal artery after it had given off the inferior phrenic branch. Normally, all the capsular arteries spring from the abdominal aorta direct.

In a fourth subject was noticed an abnormality with regard to the origin of the *lingual and facial* arteries. It is not a very rare occurrence. Both these arteries usually spring from the external carotid by separate trunks. In this instance, both of them sprang from the external carotid by a common short trunk which was one eighth of an inch long. This abnormality occurred only on the right side; on the left, the branches were normal.

In a fifth subject, the *brachial artery* on the right side was found to give off a large branch at the level of the middle of the upper arm. The branch was continued down as the common interosseous artery in the forearm. After giving off this branch, the brachial artery continued down to the forearm with its usual relations and terminated by dividing into its two final branches, the radial and the ulnar arteries, in the antecubital fossa. These terminal branches, the radial and the ulnar, were continued in the forearm in a more superficial plane than usual.

The radial artery was lying just superficial to the Flexor Sublimis Digitorum; and the ulnar was lying between this muscle and the Flexor Carpi Ulnaris.

In a different subject, the *ulnar artery* on the right side was found to spring from the third part of the axillary artery. It passed down the upper arm in posterior relation to the brachial artery. It gained the antecubital fossa by passing under the bicipital fascia. Then it passed down along the forearm crossing the Pronator radii-teres superficially and lying in front of the Flexor sublimis digitorum as far as the upper half of the forearm and then in front of the tendon of the Flexor carpi ulnaris for the rest of its course in the forearm. The main trunk of the brachial artery itself divided into the radial and the common interosseous in the antecubital fossa.

In another instance, the *common interosseous* artery on the right side was not in existence as such. But the anterior and posterior interosseous arteries had a separate origin from the ulnar, the posterior being given off at a lower level than the anterior.

Another instance of an abnormality was noticed in the superficial Palmar arch in the right hand. This arch gave rise to the *arteria princeps pollicis*, both of which are, normally, the branches from the deep arch.

An abnormality in a vein (the external Jugular).

In a different subject still, the external jugular vein on the right side was found to empty itself into the Internal jugular in the carotid sheath opposite the seventh cervical vertebra.

Meckel's Diverticulum.

Two instances were noticed in which, the Meckel's diverticulum was found persistent. In one of these instances, the diverticulum

was situated at a distance of four feet from the ileo-caecal junction. It was two inches long and two inches and a quarter in circumference. Its walls were thin like those of the ileum. In the second instance too, the length of the diverticulum was two inches; but its circumference was one inch and a half; and it was situated at a distance of one foot nine inches from the ileo-caecal junction.

Abnormalities in connection with the Caecum, Appendix, Ascending colon and the peritoneum about them.

Another instance was noticed in a different subject altogether, of a caecum with the appendix and the Ascending colon for a length of four inches freely moveable on account of the nature of the peritoneal investment they possessed. The peritoneum surrounding them formed a sort of mesocœcum and an ascending mesocolon; the mesoappendix was normal; and the appendix itself was hanging down across the pelvic brim. There was a further peculiarity besides this, with regard to the peritoneum lining the parietal wall near the cœcum. There was a pouch of peritoneum which was placed behind the Psoas muscle just external to the position where the cœcum normally lies. The capacity of the pouch was just enough to permit the tip of the middle finger, that is, half an inch deep and as long in diameter when the outer border of the Psoas muscle was lifted from its bed. Another instance of an anomaly was noticed in connection with the parts about the cœcum and the lower end of the ileum. In this case, six inches of the terminal part of the ileum was situated in the right iliac fossa; its length was directed upwards behind the cœcum and the ascending colon. The distal three inches of the ileum, the cœcum with the appendix, and the proximal half of the ascending colon were freely

moveable on account of their peculiar peritoneal investment. A distinct mesocœcum and an ascending mesocolon were present. The proximal three inches of the ileum were fixed to the right iliac fossa, the posterior surface of this part of the ileum being entirely devoid of any peritoneal covering. The mesoappendix is very short. And the appendix lies closely applied to the posterior wall of the ascending colon, being directed upwards towards the liver. This peculiar disposition of the peritoneum results in the formation of a kink in the ileum between its proximal fixed part and the distal moveable part. The cœcum with the part of the ileum attached to it tends to hang down in front of the fixed part of the ileum. The fixed part being directed upwards, the moveable part, as it hangs down from the end of the former, produces the kink. Such abnormalities are productive of obstructions causing danger to life in addition to their being the cause of chronic, intractable constipation.

Abnormalities in Muscles.

In the muscular system also there are abnormalities. For instance, there was a case in which the Biceps muscle of the arm was found to give off a small slip from its tendon of insertion to that of the Brachialis Anticus to be inserted into the ulna. Again two instances, in two different subjects, both on the right side were noticed in which the tendon of insertion of the Latissimus dorsi muscle was found to gain an additional insertion to the outer lip of the bicipital groove in addition to its normal insertion into the bed of the groove. To gain this additional insertion, the lower fibres of insertion parted company from the rest of the fibres of the tendon of insertion and passed outwards in front of the axillary artery and the great plexus of nerves surrounding it; thus it appeared as though a hole was made in

the tendon of insertion of the Latissimus dorsi muscle for the transmission of the great vessels and nerves of the upper limb. There was another instance, in which the posterior belly of the Omo-hyoid muscle on the left side gave off a small muscular slip which developed into a rounded tendon gaining insertion into the cartilage of the first rib where the Subclavius muscle arises. This is perhaps due to the pull exerted by the deep cervical fascia on the central tendon and the posterior fibres of this muscle. Another instance was noticed in which the Sterno-hyoid muscle was found to arise from the fibrous tissue which is in intimate relation with the fibrous pericardium in the thorax. The muscles on both sides had this origin. Again, in another instance, the Stylo-glossus muscle was reinforced by a second head from the inner surface of the angle of the lower jaw.

Conclusion.

The observation of these abnormalities and many such may stimulate some thinking in the students as to the deviations from the normal as regards the function of these abnormalities. But one has to be warned against the possible danger of the student getting too much impressed with these abnormalities to retain clear and thorough impressions of the normal in his mind. I only point out that following out the abnormalities trains our powers of observation. It is not my object to say that the study of the abnormalities is the most important part of our work. The study of the normal is certainly more important than this. But while we learn to trust the descriptions given in the book we must, side by side with this attitude to trust, cultivate the habit of being alert; so that we may not at any time be taken by surprise by any abnormal facts.

THE recent Conference of Educational Associations included a meeting of the Child Study Society, which was held in the Jehangier Hall of the University of London on January 9th, with Sir Edward Brabrook in the chair. A discussion on the child and the curriculum was opened by Dr. W. G. Sleight, who said that the primary object of the school was to provide the child with all the important ideals of life. No one subject could provide the concepts which were intended to be of universal application; and it was the duty of the maker of curricula to collect facts of genuine value and leave to the teacher and his pupil the task of extracting the lessons from them. They must distinguish, however, between the content of curriculum and the concepts of method and conduct, for, although curricula should be made with high ideals, it should be left to the teacher to carry them out. In constructing a curriculum, therefore, the question of discipline could be altogether banished; but it was far otherwise when it came to teaching the curriculum. In spite of much that had been said to the contrary, no one could state definitely that the teaching of certain subjects would inculcate into the child the virtues of obedience and truthfulness; it rested with the teacher to make his lessons on each and every subject in the curriculum a means of inspiring his pupils with a love and reverence for these and other qualities necessary for their development into good and useful citizens. Dr. Sleight's address was followed by a discussion, in which the Chairman took part, remarking that it should always be remembered that the curriculum in its relation to the child was like the Sabbath and man, inasmuch as the curriculum was made for the child and not the child for the curriculum—B. M. J.

THE MEDICAL SERVICE AND THE PUBLIC SERVICE COMMISSION.

One of the many services which the Public Service Commission is at present engaged in enquiring, is the medical service, and the many intricate problems connected with this service will, we hope, engage the earnest attention of the members of the commission with a view to arriving at a satisfactory solution.

There is no denying that every branch of this service is discontented chiefly due to the fact that in the past this service has not been in the lime-light of official patronage to attract the attention of the government. The result has been that whereas many of the sister services were considerably improved compared to what they were when they were first constituted, the medical service alone has been more or less in a state of hibernation. This is particularly true of the civil subordinate medical service, but we say every branch of the service advisedly for we feel that the Imperial Service has reasonable grounds for discontent when compared with the sister services like engineering, let alone the civil service.

The Medical Service in India is constituted of three branches, the Imperial composed of officers of the Indian Medical Service, the Civil Subordinate i. e. Civil Asst Surgeons and the Indian Subordinate Medical Department i. e. Military Assistant Surgeons. The Imperial service is constituted almost entirely of officers of the Indian Medical service who have been lent to the civil side by the Military authorities and these officers, are at any time liable to be recalled to Military duty either for purposes of war or otherwise. The result has been that the

Civil Medical Service has been a fertile field for the adventurous Military section where Junior Officers get a suitable training and gain all the experience which later is placed at the disposal of the Military authorities. Instances are not wanting where senior officers of the Indian Medical Service have been suddenly drafted on to the military just when they have established some sort of claim to special knowledge in particular branches of the science through their long contact with the large provincial institutions. The result of such peripatetic arrangements as have to be made as a consequence thereof, is often prejudicial to the public at large. This arrangement of drafting Military men into the civil side was necessary in the early fifties when there were no well recognised Medical Colleges in this country and when Medical education was but at its infancy. More than sixty years have rolled on since the first batch of medical graduates were turned out from the Calcutta Medical College and yet the arrangements that were then made still hold good. We are aware that the machinery of the government is always accustomed to move at a snail-like pace when progressive measures were required but we did not expect to find the wheels clogged as well, with the result that there has been a stand-still if not an actual retrogression.

Let us look for analogies in the sister departments and see what we find there; and for purposes of comparison no better department could be chosen than the Engineering. The Engineering like the Medical was largely monopolised in the early seventies and prior to it by the Royal Engineers of the Army but after the establishment of the Thomason College at Roorkee, successive batches of students have passed out and the superior service has been thrown open to

them and now the Royal Engineers have been replaced by civilians who are not tossed about between their Civil and Military careers but are always at the disposal of the civil authorities. Now we ask how is it if such an arrangement was feasible in the engineering it is not possible in the medical department; and further if political considerations have any weight at all it should be more in the engineering than in the medical department.

The engineer graduates of the Indian Universities have got the chance of rising to the highest posts in their department while the medical graduate of the same universities are condemned to a life of subordination and the highest he can hope for is a Civil Surgeoncy with a salary of Rs 500/- an amount that is lower than that drawn by the most junior member of the I. M. S. in civil employ. The large majority, however, cannot hope for anything more than Rs.200/- a month, a scale of pay that compares most unfavourably with that of every other branch of the Provincial Service. The reason for such special treatment in the case of the medical graduate is not apparent unless it be that they are expected to augment their income by private practice. It cannot surely be ascribed to any lack of training on his part as no less an authority than the British Medical Association have acknowledged the fact that he compares very favourably with the products of Western Universities.

The medical graduates of Indian Universities therefore demand that an arrangement more in harmony with present conditions and more in unison with equity and fair play should be substituted for the present one which severely handicaps them in the fight and which is besides so antiquated.

They therefore demand that the appoint-

ments on the civil side should no longer be reserved for any particular class or community but should be thrown open to the whole Medical Profession in India and that the only test for filling such appointments should be individual efficiency. There is no denying the fact that this strangling of the claims of the medical graduates of Indian Universities has led to not a few of the best graduates fighting shy to enter the service in the subordinate places in which they would be condemned to serve throughout their official career. It is a usual thing to find cases where experienced, capable and senior officers in the Subordinate Medical Service have had to submit themselves to the disciplinary control of the youngest member of the Indian Medical Service who probably had not begun his medical A. B. C. when these members entered the profession. And all because they are the products of Indian Universities!

Among all the technical professions, the Medical profession is the very last where such arrangement should be tolerated for it is well known even to the lay mind that every doctor gains knowledge only with experience and the more grey he is, the more sober his judgment will be. And it must be remembered, and the point will bear repetition, that there is little to choose between the average medical graduate in India and in England.

The difference comes in owing to the difference in the treatment meted out to the two sets of people. Thus whereas the I. M. S. element is given every facility and opportunity to acquire experience and self confidence, the other is always confined to the more routine and therefore more arduous part of the work, thus performing the duties of sappers and miners in the department. We are considerably surprised to read the

evidence given in this connection by some of the witnesses, regarding the apportioning of operative work to the Surgeon and the Assistant Surgeon. These witnesses conveniently forget that the experienced surgeon of today was but a raw beginner of yesterday plodding with little success and with a great many faults in his attempt to gain experience. And no one will boldly assert that the raw officers who are posted to several of the large institutions are in point of surgical work infallible, or are far superior to the experienced assistant surgeons at such stations. But yet the surgeon no sooner he is posted to such stations brushes his assistant aside, no matter how capable he may be, and steps into the wider domain of major surgery confining his assistant to the pleasant though monotonous task of pulling out loose teeth and opening abscesses and such like interesting operations among the out-patients; the way in which these graduates are completely ignored is neither just nor profitable in the long run and in this connection we must bear in mind the fact that these people form the chief source of medical help to the public at large.

Next, we will go into the question of the appointments in the Professorial staff of the various Medical Colleges and see on what general principles these important appointments are filled. So far as we are aware in England and all over the continent it is more or less an accepted principle that these important places are given only to men who have established their claims for special knowledge in the particular subject selected, besides having a special aptitude for the profession of teaching. For it is an accepted dictum that not every one is chalked out for a Teacher and some essential elements are necessary to make one suitable to a Teachership.

We find that almost all these chairs are occupied by officers of the I. M. S. and more important still, that these professorships are only a side-show and that their main appointments as Surgeons or Physicians in the hospital govern their professorships. Thus the First Surgeon and Second Surgeon in the local General Hospital are respectively Professors of Surgery and Anatomy, and the First Physician, the Professor of Medicine.

The effect of such an arrangement has been that officers are selected primarily to fill the vacant places in the hospital and are not chosen with a view to their suitability to fill the professorial chairs in the Medical College with the result that very often the persons so chosen have to force themselves to study a subject for which they care very little. Another even more mischievous consequence of this arrangement is the frequent transfers made in the professorial staff due solely as we have stated before, to the fact that these appointments are not at all taken into consideration and as a result thereof rarely is a professor given a chance of becoming a specialist in any particular subject.

In the more important subjects like Anatomy, Medicine, Surgery etc., we know that during the last 10 years the Professorships have passed through successive hands and no single professor has had it for more than 3 or 4 years.

During the last 10 years the chair of Anatomy has been occupied by no less than 7 professors, that of Medicine by 6 professors and Surgery by 4 professors. In the case of other subjects such as Materia Medica, Pathology, Medical Jurisprudence & Hygiene the number of changes are innumerable, almost every year finding a new incumbent.

Now it is against this sort of policy that we must protest as it is neither fair to the Professors concerned nor just to the Students affected. In 1906-1907 the chair of Pathology was filled by 3 different men. We can also cite instances where one officer has successively been appointed to be professor of four or more subjects in consecutive years. We do not in the least question their individual capabilities but we say with emphasis that no where except in India will such an arrangement be tolerated and no where will it be accepted that one professor is capable of teaching any subject he is asked to. It is a slur and an undeserved slur on the medical profession in India because such an arrangement implies that no better choice is possible and one has therefore to make the best of a bad bargain. We hope the Public Service Commission will seriously consider this question of Professorial appointments in the various Medical Colleges because here at any rate the one and only test for filling these chairs ought to be proficiency. We are quite prepared for and in fact we will welcome, an arrangement by means of which these chairs when they fall vacant may be advertised both here and in England and the best choice made out of the

applicants. The appointments should also be sufficiently attractive to get the best candidates to accept these places for a number of years and unless such an arrangement is made we must confess the Medical Student in India will be severely handicapped. In any case we would object to the arrangement of holding these appointments as a close preserve to the Indian Medical Service and we are not surprised to read the evidence given in Calcutta the other day that if the nine out of the eleven professorships reserved for I.M.S. officers be reduced the whole service will be discontented. It is only natural, but this should not be made a reason standing in the way of doing justice to other claimants.

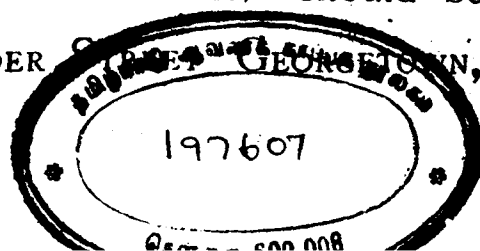
There are several other aspects which we would wish to touch upon. Such suggestions as we have made now we make with the full belief that they are imperatively necessary for the improvement of the medical profession in India and for the growth of an Independent Medical Profession in this country. It is time, we think, that a beginning is made in this direction and that these places are filled by the indigenous products of Western Medicine, at least to a small extent.

EDITORIAL NOTICES.

It is proposed to issue a special number of Journal incorporating the Medical evidence given before the Public Service Commission. Medical practitioners in and out of the Service are requested to send any views they have towards the betterment of the Medical Service in India, so as to reach the EDITOR before 1st March 1914.

Contributions for Sole Publication in the Journal are requested from Medical Men. **Such as are accepted will be paid for**, on publication. It is requested that they be typewritten or legibly written on one side of the paper only. Any illustrations accompanying the articles should have the full description written on a **separate** paper attached to them.

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