tions, it must be accepted as a lamentable but unavoidable sequence of the disease.

Then, again, to us it seemed probable that the immediate result of forcible rectification might be paralysis, or at least paresis, temporary or long continued; and arguing on the analogy of what has sometimes occurred after reposition of limbs subsequently to tuberculous arthritis, we felt it was possible that so novel a proceeding in the spine might be followed either by suppuration or by an acute dissemination of tubercle. But when we come to reflect on our experience in dealing with a large number of these articular cases, we could not altogether recall more than three or four cases in which it could be distinctly affirmed that forcible rectification and acute dissemination of tubercle stood in the relationship of cause and effect. Nor has our combined experience been small.

With the statements, therefore, of the French surgeons Calot and Rédard before us, and duly considering the various possibilities, we decided to put the question to a cautious trial. After personal observation of the methods adopted in the clinics abroad, and noting the details, we commenced to operate. During the last two months we have together treated 11 cases of angular deformity. In 6 of them we obtained immediate and complete reduction. In 2 of these cases, which were extremely deformed, the reduction was very remarkable on account of the facility with which it was effected. In 5 of the 11 cases we obtained partial reduction, and of these latter cases in three of them the angle was sharp, and the area of disease limited to two or three vertebræ. In the remaining two it was prominent but obtuse, and extended over six or seven vertebræ, and was accompanied by much thickening of the tissues at the site of disease.

Among the 5 cases of partial reduction were the 2 on which we first tried this method, and we felt it to be unwise to use such force at the first sitting as we now know to be necessary to completely reduce the deformity. The remaining 3 cases of partial reduction were so consolidated as to resist a large amount of force. But we can say that in all 5, although the deformity was not entirely reduced, there was considerable lessening of the projection, we should say about three-fourths; and what is very much to the point there was an increase in the length of the spinal column from an inch upwards. This lengthening was not due to mere extensibility of the normal portion of the spine, a source of fallacy we took care to guard against in our measurements, but to the unfolding of the spine at the site of former disease.

Our method follows that of Calot, and in view of the difficulty of sometimes obtaining a sufficient number of assistants we have devised a special apparatus, by which traction is simultaneously made upon the head, arms, and legs. After steady extension of the spine, either by the aid of assistants or by the apparatus, for a few minutes, with the patient in the prone position, care being taken that the pull should be equal in all directions, downward pressure is made by the surgeon's hands upon the projections, counter-pressure being afforded by the open palms of an assistant placed on the abdomen. It is advisable to have the patient's bowels well emptied before the operation, and then the assistant's hands readily support the anterior aspect of the spine, and so prevent too rapid reduction of the deformity. When the projection is dorsal, counter-pressure can be indirectly made through the chest walls. The patient is kept under an anæsthetic from the first, and as this must be administered while he or she is in the prone position, it is a little difficult. But we have found that it is better to get the patient well under before proceeding to operate, and then but little more is required after the prone position is assumed.

Reduction, partial or complete, having been obtained, a plaster of Paris corset is put on, and is carried up over the head and neck, merely leaving the face exposed, care being taken that pressure is maintained during the application of the jacket on the site of deformity. It is well to note that a very important point in the adjustment of the plaster of Paris corset is that the spine must be maintained in hyper-extension. We have found it easier to put the bandages on the head and neck if the patient is suspended from a Sayre's apparatus.

Now as to results. In not one of the cases, despite the complete or partial reduction of the deformity, has there been

either paresis or paralysis following the operation, nor has there been in four cases which have been carefully watched for two months any untoward signs, either of suppuration or a renewed outbreak of tubercle in those cases in which we presumed it to be the *fons et origo mali*. And our experiences accord with those of Calot, who has gone a step further and excised some of the projected laminae. We should mention that in some cases we have used a modification of the double Thomas's hip-splint, with a head-rest and leg-support, so constructed as to keep the spine in extension.

We submit, then, that, although the method is still on its trial as to its ultimate results, it seems to afford a good prospect of reducing the deformity without incurring dangerous consequences. This article should, however, be regarded as a preliminary statement. We hope to publish a more detailed account of the cases in a few months' time. At any rate, the lesson which has been brought home to us is that the correct way of preventing deformity from arising or increasing in Pott's disease is to maintain the spine in hyper-extension by suitable support beneath it, and not simply to place the patient upon a bed or straight splint, which favours rugging of the spine at the site of disease and increase of intervertebral pressure.

In conclusion, once we can be fully assured that no symptoms of a serious character follow these manipulations, it becomes an easy matter when the spine is rectified to maintain it in the corrected position.

REMARKS ON DR. KOLLE'S REVIEW OF MY ARTICLE—"PROFESSOR KITASATO'S ANTICHOLERA SERUM."

By A. NAKAGAWA, M.D.,

Assistant at the Institute for Infectious Diseases at Tokio.

I WAS rather surprised to find that Dr. Kolle has, at this date, had the kindness to review the brief account of Dr. Kitasato's work on the serumtherapy of cholera, which appeared in the BRITISH MEDICAL JOURNAL of July 18th, 1896.¹ That Dr. Kolle is not satisfied with its contents is natural enough if one takes into consideration the fact that I purposely avoided going into the details of the experimental part of the work especially. For this reason I expected Professor Kitasato would, a little later, publish his report in German or English. Consequently I did not wish to anticipate too much of what he was going to write himself.

But as Dr. Kolle now wishes to know if the control experiments with the sera of healthy animals have been made I feel it my duty to translate that part of the original report (published in Japanese) which bears on this point.

Experiments Showing the Absence of the Antitoxin in the Serum of Healthy Animals.

No.	Guinea-pig Body Weight.	Toxin.	Serum (Normal).	Result.
	Grammes.	C.cm.	C cm.	
45	242	2.0	0.5 (S.)	Died during the night.
46	262	2.0	0.5 (H.)	Died the next evening.

N.B.—The minimum fatal dose of the toxin is 1.5 c.cm. (intraperitoneal). Toxin and serum injected simultaneously. (S.) sheep; (H.) horse. It is to be borne in mind that 0.2 c.cm. of the anticholera serum was found to neutralise 2.00 c.cm. of the same toxin.

Dr. Kitasato concludes from the above experiments that the antitoxic property is not present in the sera of healthy animals, at least to the extent claimed by Professor Pfeiffer. I have no intention to enter into that discussion. I might add here that Drs. Behring and Ransom published their report when Dr. Kitasato's work was already in progress. The report of MM. Metchnikoff, Roux, and Salimbeni appeared in the *Annales de l'Institut Pasteur* of much later date.

Dr. Kolle states that an "unbefangene" reader must, from reading my article, get the impression that I was reporting a new discovery. If that was the case, I am extremely sorry that I should have created such an impression. For we are

aware of the most elaborate experiments relating to cholera immunity executed by Professor Pfeiffer and his corroborators, among whom I have the pleasure to mention the name of Dr. Kolle himself. The reason why I did not give an historical survey of the researches bearing on cholera immunity was also due to my expectation of Professor Kitasato's report.

Lastly, Dr. Kolle remarks that I have given the statistical figures to prove the efficacy of anti-cholera serum. I think there is a slight misunderstanding on his part. Fortunately for me, I stated expressly what importance I attached to the apparently favourable statistics in the following words: "Without claiming to draw, from a number relatively so small, the final conclusion that the serum treatment was attended with the reduction of 20 per cent. in the mortality statistics, it is evident at least that the result of the new therapy was not an unfavourable one."

REFERENCE.

¹ *Centralb. f. Bakt.* April 13th-14th, 1897.

SURGERY AT THE NEW HOSPITAL FOR WOMEN IN 1896.*

By MRS. SUHARLIEB, M.D., M.S.LOND.,
Senior Surgeon to the New Hospital for Women, London.

On behalf of the surgical staff of the New Hospital for Women, Euston Road, I desire to give a brief account of the surgical work of that hospital for the year 1896.

We had 192 minor operations, all the subjects recovering; and 74 major operations, with 1 death; this occurred in a case of chronic intestinal obstruction, due to a malposition of viscera inaccessible to operation.

Of the 73 successful operations:

- 12 were vaginal hysterectomy.
- 37 abdominal section.
- 11 amputation of breast.
- 8 radical cure of hernia.
- 2 nephrectomy.
- 1 nephrolithotomy.
- 1 Alexander.
- 1 radical cure of hydrocele of the round ligament.

VAGINAL HYSTERECTOMY.

Of the 12 vaginal hysterectomies, 9 were for carcinoma, the cervix alone being involved in 6 cases, the body only in 2, and the entire organ in 1. The 3 remaining hysterectomies were done for fibromata, one complicated with a hydro-salpinx.

THE VALUE OF CURETTING.

In several of these cases the value of curetting and examining the scrapings in doubtful cases was demonstrated. Thus:

Mrs. B., aged 52, four children, menopause at 48, May 4th, 1899, complained of brownish-white discharge eighteen months; no bleeding except for fourteen days one year ago; weakness and loss of flesh two months only. On examination uterus large, hard, freely movable; cervix apparently normal. Dilated to 18 Hegar; uterus explored with finger; walls rough, a polypoid mass projecting into cavity. About 1 oz. of tissue removed by curette, which on microscopic examination proved to be carcinomatous.

Hysterectomy, May 11th.—On examination after removal the uterus was large; on the posterior wall near the fundus was a rough flat mass extending towards the openings of the Fallopian tubes. It had probably occluded the orifice of the left tube, which was dilated into a cyst filled with blood-stained fluid. The patient did very well; the temperature never exceeded 100°, and she was discharged well, the vaginal roof healed, on June 1st.

In another case Mrs. S., aged 25, the information given by the curette and microscope was even more valuable. The age of the patient, the fact of a recent miscarriage, and the negative evidence given by bimanual examination would have naturally led to a wrong diagnosis, but the pathologist's report on the tissue removed by the curette prevented this error, and hysterectomy was performed on August 3rd, 1896.

Report on Specimen.—"The uterus is enlarged. Cervical canal up to os internum is filled with a soft friable growth. Uterine mucous membrane is smooth above, but below and posteriorly and at both sides it is invaded by the growth which extends upwards for ½ inch. Ovaries large and oedematous. Tubes healthy." Recovery rapid. Patient went home at the end of three weeks. She was seen on January 9th, 1897, when she was in good health.

FIBROID TUMOUR.

One of the cases of fibroid is interesting.

C. T., single, aged 39.

Symptoms.—Three years' duration menorrhagia and metrorrhagia, increasing in severity; incapacity for exertion; chronic invalidism; incontinence of urine.

* Read at the annual general meeting of the East Anglian Branch at Ipswich.

Examination.—Fibroid size of small apple in anterior uterine wall pressing on bladder. Vagina very small.

Operation, December 10th, 1895.—An incision 1 inch in length through perineum gave room for operation, which was difficult from the long narrow virgin vagina. The operation was done in the usual way, some difficulty being experienced in delivering the fundus through the incision.

Examination of Specimens.—There was a single hard interstitial fibromyoma in the anterior wall of the uterus. It was the size of a Tangerine orange. The mucous membrane of the uterus was red and soft. The left tube thickened; right tube and both ovaries apparently healthy.

Patient did well, and left hospital on January 3rd, 1896. She returned in April, 1897, saying she had still some bleeding. At the left angle of the scar there was a soft dark red growth resembling an ordinary mucous polypus of the cervix. It was removed by avulsion, and proved to be a mere collection of fibrin on a stout silk ligature. This ends the case.

On a careful perusal of our records I find that we do not adhere to any set operation in vaginal hysterectomy. We get the organ out with as little disturbance of surrounding parts as possible. Sometimes the fundus is anteverted, sometimes retroverted, sometimes the whole organ is first freed and then drawn straight out, sometimes (in case of medium-sized fibroids or sarcomata) we remove the uterus *morcellement*. In some instances we secure the stumps with ligatures, but when it is more convenient we leave clamps on for 48 hours. In cases of malignant disease we remove the ovaries and tubes if we can, especially where the body or fundus uteri are affected.

It is too early to make any statement about recurrence in this group of cases. They are all alive, and apparently well so far, except one case of advanced sarcoma, in which recurrence began almost at once, advanced rapidly, and killed the patient in nine months. In age our patients varied from 25 to 60, 2 of the 9 being under 30, an unusual proportion of young women.

ABDOMINAL SECTIONS.

The 36 successful abdominal sections may be classified as follows:

Cholecystotomy	...	...	...	...	1 CASE.
Hysterectomy	...	...	...	...	5 CASES.
Myomectomy	...	...	...	...	2 "
Hysteropexy	...	...	...	...	4 "
Ovariectomy	...	...	...	...	9 "
Removal of one or both appendages	...	...	...	...	13 "

Among the more interesting of these cases was the following:

Mrs. M., who was admitted in January, 1896, with a tumour in her right hypochondrium. History of attacks of pain and of vomiting off and on during the last five years. No jaundice and no colic.

A smooth, roundish movable mass was found in the right hypochondrium, about 4 inches in length. It was pear-shaped, with a distinct neck, and was not tender on manipulation.

At the time of operation, January 28th, about 5½ ounces of clear fluid was removed by aspiration, and three gall stones were squeezed up out of the cystic duct into the gall bladder, whence they were removed by incision of its wall. The stones were soft, yellowish, faceted, about the size of a small nut. When put together they measured about 1½ inch, and one of them which was printed was stained with bile. The opening in the gall bladder was stitched to the abdominal wound; it was drained, and eventually healed well.

Of fibromata and fibromyomata of the uterus, 7 cases needed operation. In 4 cases hysterectomy was performed, in 2 myomectomy, and in 1 the appendages were removed. There was nothing noteworthy in the hysterectomies. In all the cases there was not only a damaging amount of bleeding, but also disabling pressure on the bladder or rectum, or both these organs. In all we followed the intraperitoneal plan, forming anterior and posterior flaps of peritoneum and amputating the uterus about the level of the os uteri internum. The stump was not constricted by any ligature, but the uterine arteries were secured if possible before they were cut. The cervical canal was disinfected with carbolic acid, then the cut edge of the mucous membrane oversewn, the muscles of the stump by a second row of catgut stitches, and finally the peritoneal flaps were adjusted and sewn with Lambert's suture.

The myomectomies were very interesting. In each case the main tumour had burrowed into the folds of the right broad ligament; this being incised, the mass shelled out readily, but there was some bleeding from its attachment along the lateral border of the uterus. In one case this necessitated the ligature of the right uterine artery. In one case the uterus was left intact, also both sets of appendages; in the other, the appendages of the right side were removed.

In suitable cases this method seems to offer a good solution of the problem of dealing with a solitary fibroid which has indeed partly solved the problem itself by being more or less extruded from the uterine wall. As we have all been taught,