an aortic regurgitation, were made out, and there were also moist râles above the right clavicle.

CASE X. William M., aged forty, complained that for one week he had experienced cough and pain in the chest. No other symptoms could be elicited. Examination disclosed moist râles in both bases behind, also a double aortic murmur and a systolic murmur at the apex transmitted into the axilla.

CASE XI. F. S., aged fifty-six, paper-hanger, has had a cough all winter, with little expectoration, and he also suffers from "sour stomach." The heart is irregular in action and the aortic valve is incompetent.

CASE XII. Daniel S., aged seventy-two, complains of being "sore all over" and "choked up in the chest." He coughs all night, with a mucous expectoration. Bread and tea are the chief diet. The pulse is irregular, feeble and intermittent. There is a faint systolic murmur at the apex, transmitted towards the axilla. Pulmonary œdema exists at the bases of both lungs.

Of these twelve patients, five had disease of both the aortic and mitral valves, four had mitral regurgitation, one had mitral stenosis, one had aortic regurgitation, and one had both stenosis and incompetence of the aortic valves. Of the 684 cases reported by Sir Andrew Clark, 41 per cent. had mitral regurgitation, 24 $\frac{1}{2}$ per cent. had aortic stenosis, 14 per cent. had affections of both valves, 9 per cent. had mitral stenosis, 4 $\frac{1}{2}$ per cent. aortic regurgitation, 3 $\frac{1}{2}$ per cent. aortic obstruction and regurgitation, and 2 $\frac{1}{2}$ per cent. mitral obstruction and regurgitation.

According to his experience, therefore, we might infer that mitral regurgitation is the least unfavorable valvular disease, and next to it aortic stenosis; but different authorities differ widely about this question. Fagge regards aortic stenosis as of the least relative importance, followed by mitral stenosis, next to which—but separated by a long interval—come mitral regurgitation and aortic regurgitation. Strümpell believes that aortic regurgitation generally gives the best prognosis, that mitral insufficiency is rather worse, and that worst of all are mitral stenosis and aortic stenosis.

If we search for an explanation of these apparent contradictions, we shall find it in the all-important fact that every case of heart-disease must be judged independently. The crucial test for the heart is its ability to carry on the circulation. Now it is easy to see that the size of the leak or the degree of the stenosis may vary between great extremes, that the development of compensatory hypertrophy may be ample in a young and robust individual of good habits, and next to nothing in an old and syphilitic drunkard, and that a stationary lesion which presents no changes in the course of one or more years, is less to be feared than one which is still progressive. The names mitral stenosis, aortic regurgitation, and the like, tell only a part of the truth, and that not the most important. Myocardial degeneration without a murmur is a worse thing than valvular lesion with adequate hypertrophy. And although I do not here present such a case, the determination of the state of the cardiac muscle demands even more vigilance in physical examination than the condition of the valves. It should be added perhaps, to avoid misunderstanding, that given a defect in the valves, the degree of cardiac hypertrophy is to some extent, a measure of the importance of that

defect. If compensation is good, the less the hypertrophy the more favorable the case.

The twelve cases reported by me had this one thing in common: for a considerable period of time they had had heart-disease and yet had been entirely unconscious of the fact. Some of them, indeed, did not have symptoms suggesting heart-disease to a physician, thus affording a striking contrast to the sufferers from functional disorders who so frequently demand a physical examination and who are so slow to be convinced that their hearts are not organically diseased.

The ordinary rational signs of heart-disease may be briefly enumerated as follows: dyspnoea, palpitation, precordial distress, headache, vertigo, cough and indigestion. Of my cases, one, it will be remembered, confessed on questioning that he had suffered somewhat from dyspnoea, although he asserted that the trouble was very slight. With this exception none of the patients presented the rational symptoms just enumerated, except cough (which was present in three cases) and indigestion (which was present in one case).

Of Clarke's 684 cases, 402 had digestive symptoms, 35 had headache, 17 had vertigo, 23 had bronchitis and seven had pulmonary congestion; so that really 487 might be said to have presented symptoms suggesting the possibility of cardiac disease; but even then, the large number of 197 remain, the correct diagnosis and proper treatment of which hung upon the physical examination.

The lesson to be gained from these observations is the necessity of thoroughness in the physical examination of every patient, so far as practicable. There are those who regard it a mistake to inform a patient as yet undisturbed by cardiac symptoms that he is the victim of a cardiac disease. Bristowe, for example, speaking in this connection says, "I am sometimes inclined to think it is a pity there are physicians. Many persons would lead a happy life enough but for them. If a patient has a heart-trouble, he does not wish to learn the fact." My own view is that, under ordinary circumstances, the earlier such a discovery is made by the physician and communicated to the patient, the better. This affords a fair chance for averting cardiac failure. A sensible patient, properly advised as to his physical limitations, may be able to lead a long, happy and useful life, whereas unwarned he might soon collapse into hopeless invalidism.

A REPORT OF 392 CASES OF INTUBATION AND 139 CASES OF TRACHEOTOMY DONE AT THE BOSTON CITY HOSPITAL.¹

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INTUBATION for the relief of laryngeal obstruction in diphtheria was done at the Boston City Hospital, for the first time, on December 31, 1886, and from that time up to January 1, 1891, it has been done in 392 cases. During this time tracheotomy has been done 139 times; 82 of these being primary operations, 36 after intubation, and 21 after attempted intubation.

In the report of cases of tracheotomy made by Drs. Lovett and Munro,² were included all operations per-

¹ Read before the Surgical Section of the Suffolk District Medical Society, November 4, 1891.

² Lovett and Munro: *American Journal Medical Sciences*, July, 1887.

formed previous to January 1, 1887, while in this paper all operations (both intubations and tracheotomies) since that time are reported. During the first year after intubation was introduced at the hospital, it was done only occasionally, and on picked cases; while during 1890 it was practically the only operation, tracheotomy being reserved for exceptional cases or was done as a secondary operation.

The writers are indebted to the visiting surgeons for permission to report these cases.

INTUBATION.

The details of the operation will not be entered into in this paper; suffice it to say, that, while at first the operation was done with the patient in the sitting posture, at present it is done with the patient lying down with a small pillow under the neck. In this position the operation can be done more easily, and the child more easily held.

Of the 392 cases, 312 died and 80 recovered (20.41%); 36 cases were followed by tracheotomy, with three recoveries; there were 21 cases in which intubation was attempted, and where either the tube was not inserted or else the child did not breathe after insertion, so that tracheotomy was immediately performed, and these cases will be included in the report of the tracheotomies. Over ten per cent. of all the cases were moribund upon entrance to the hospital.

The age of the child has a very decided influence upon the chances of recovery, as in tracheotomy. This is shown in the following table:

Age.	Cases.	Recov.	Per cent.
Under 3 years	123	18	14.63
3-5 years	183	43	23.05
6-10 years	55	17	30.90
10 years and over	10	2	20.00

The average age of the cases that recovered was four years and six months, of fatal cases three years and nine months, and of all three years and eleven months. One case was twenty-seven years old, three were seven months; all died.

The early operation, after the appearance of laryngeal symptoms, does not seem to have the same effect on the recoveries as in tracheotomy³ for

In 210 cases operated upon the 1st day there were 42 recoveries.

60	"	"	2d day	"	15	"
22	"	"	3d day	"	10	"
10	"	"	4th-9th days	"	3	"
88	where the time could not be ascertained					10

Two were hoarse and croupy for two weeks before operation (both died). One was intubed four hours after the first symptoms, which were laryngeal. The average time of operation was thirty-six hours after the appearance of laryngeal symptoms.

The average length of time that the tube was worn in those that recovered was five days and eighteen hours; the average in the fatal cases was two days and three hours; while the longest time a tube was worn was twenty-three days. The age has a decided influence upon the length of time that a tube is required, the younger the child the longer it must be worn. This is shown in the following table:

Age.	Average time tube was worn.
1-2 years	9 days and 19 hours.
2-3 years	8 days and 6 hours.
3-4 years	5 days and 3 hours.
4-5 years	4 days and 14 hours.
5-6 years	4 days and 19 hours.

There were too few of the other cases to make any averages.

Complications.—Eleven cases developed measles; five recovered. Three cases developed scarlatina; one recovered. Nephritis, as shown by albuminuria and casts, was a frequent complication, but the notes are not full upon this point.

Accidents.—Numerous accidents occurred; some unavoidable, some due to faulty instruments, some to lack of skill. In ten cases the tube was plugged with membrane; and in two spasm of the jaw occurred, making tracheotomy necessary. In three cases death occurred during the attempt to insert the tube; and two died during choking spells before relief could be given (in one case relief was obtained by the nurse holding the child up by its feet and slapping it on the back, forcing the tube out). Four stopped breathing after reinsertion of the tube (it having previously been worn with relief), and tracheotomy was done; in two the introducer broke (owing to a defect); in two, insertion of the tube caused convulsions; in two, the tube was drawn into the bronchi, and these cases are reported in detail:

CASE I. Female, aged fifteen months, entered hospital, having been sick one week, and with laryngeal symptoms for six days. She was immediately intubed with a "two-year old" tube. Tube worn three days, and then coughed up; replaced in twenty minutes; coughed up again next day, and replaced immediately; worn two days, and again coughed up. A three to four year old tube was now passed, and worn five days; then removed and replaced. Soon after this the breathing suddenly became labored; and as the tube could not be felt in the larynx, tracheotomy was done (the intubation tube could not be felt in the trachea). A quiet night was spent, and in the morning the tube was felt in the left bronchus; it was removed after great difficulty; but the patient failed rapidly, and died quietly, probably from exhaustion.

CASE II. Male, aged thirteen months. About seven weeks before entrance was suddenly taken with choking, and became cyanosed. Tracheotomy was done next day, and the symptoms relieved; several attempts were made to remove the tube, and all failed. With the laryngoscope the larynx could not be seen, owing apparently to paralysis of the epiglottis. One week after entrance there were several severe attacks of dyspnoea, which were relieved by passing a longer tube (tracheotomy). Twenty-three days after entrance an intubation tube was passed with some difficulty, owing to the flabby epiglottis; comfortable; fed by enemata for two days, and then by mouth. Six days after intubation (the child having been well and comfortable) several unsuccessful attempts were made to extract the tube; in about half an hour there was a severe attack of dyspnoea, and as the tube could not be felt in the larynx, tracheotomy was done. The tube could not be felt in the trachea. On examining the chest, the breathing on the right side was loud, high-pitched and tubular; on the left, the entrance of air was heard only through the first half of inspiration, while expiration was diminished and low in pitch. Breathing became labored, and death took place forty-eight hours after the disappearance of the tube. At the autopsy, the tube was found projecting from the right primary bronchus, with its head resting upon the left side of the trachea in such a way as to partly cut off the air from the left chest.

³ Lovett and Munro: American Journal Medical Sciences, July, 1887.

Its head was two and one-quarter inches below the tracheotomy wound. The left lung showed in its lower lobe a small area of dark-red consolidation. Nothing else remarkable was noted, except that the epiglottis was long and flabby.

The table of the causes of death which is as follows, is not very reliable, as it is made up from the clinical records, there being very few autopsies :

Sepsis	149
Extension	75
Heart-failure	37
Broncho-pneumonia	27
Exhaustion	9
Complications	9
Asphyxia	3
Suppression of urine	2
With convulsions	1
	312

Broncho-pneumonia was more common than the figures would indicate, it being a complication in many cases of sepsis and extension. It is impossible to decide whether pneumonia from the inhalation of food was common or not, although the symptoms of broncho-pneumonia often seemed to follow the ingestion of liquids; this would be a less doubtful point if the same thing did not happen after tracheotomy.

TRACHEOTOMY.

Tracheotomy was done 139 times; 82 being primary, with 11 recoveries; 36 following intubation, with 3 recoveries; and 21 following attempted intubation, with 2 recoveries; 19 cases were moribund at the time of operation.

In comparing the ages it is true, as with intubation, that the younger the child the less favorable is the prognosis, as is shown in the following table :

	Cases.	Recoveries.
Under 3 years	45	4
3-5 years	58	7
6-10 years	19	5
Over 10 years	10	0
Unknown	7	0

In 53 cases operated upon the first day after the appearance of laryngeal symptoms, there were four recoveries; in 31 cases on the second day, six recoveries; in 16 cases on the third day, two recoveries; in 7 cases on the fourth day, one recovery.

The character of the discharge from the tube was of great value in prognosis; for in 34 cases where the discharge was thin and abundant, there were 13 recoveries; in 46 cases where the discharge was gummy at some time, there was one recovery; and in 14 cases where the discharge was suppressed at any time, there were no recoveries. The average length of time the tube was worn in those cases that recovered, was nine days and five hours; and in all cases three days and three hours. (This average does not include the case in which a tube is still worn, two and one-half years after operation.) Two cases had diphtheria of the wound, one recovered. Five had convulsions, six were delirious, and two had subcutaneous emphysema; all died.

Causes of death.—Sepsis, 41; extension, 47; heart-failure, 18; broncho-pneumonia, 4; complications, 3; exhaustion, 2; asphyxia, 2; died on the table, 6.

Broncho-pneumonia, as in intubation, was more common than the figures would indicate, it being present in many cases of sepsis and extension; but an ab-

solute diagnosis was impossible owing to the lack of autopsies.

Treatment.—Each patient upon arriving at the hospital, unless requiring immediate operation, is given steam for inhalation, and hot poultices are applied about the throat. Many times by these means, the spasm and dyspnoea are relieved; while in a certain class of cases, instead of relief following, the dyspnoea is increased. Occasionally relief is obtained by the use of mustard pastes where the poultices had been unsuccessful. Paregoric, in small doses frequently repeated, has been followed by marked relief in numerous cases where the dyspnoea has been of a spasmodic character. Numerous throat sprays have been used with varying results, but the hydrogen-peroxide spray has been on the whole the most satisfactory, and combined with the insufflation of iodoform has been very efficacious in the foul necrotic cases.

No one line of internal medication has been carried out for a sufficient length of time to warrant any definite conclusions, except that corrosive sublimate has been used quite freely and has given quite satisfactory results, for in 95 cases of intubation in which it was used, there were 27 recoveries (27.84%). Turpentine emulsion (ten to fifteen drops spirits of turpentine to one drachm cod liver oil) at times gave marked temporary relief to the dyspnoea. Alcoholic stimulants have been used freely in all the cases. The feeding is very important, especially after intubation. Occasionally the patient is able to swallow food (including liquids) without difficulty with the intubation tube in place; but, as a rule, the swallowing of food, especially liquids, is followed by coughing and a good deal of discomfort. In these cases the most satisfactory mode has been the administration of soft solids by the mouth, with the patient lying down with the head lower than the rest of the body, combined with warm water enemata for the thirst. Cracked ice by the mouth is also allowed. Early extraction of the tube, even if reinsertion be necessary, is done occasionally for the purpose of feeding.

Ultimate Results.—Thirty-seven of the 80 cases that recovered after intubation were seen at least a year and a half from the time of operation; the other cases were not found. All of these 37 were in good health, in perfect voice, and presented nothing that would indicate any former ulcerative process due to pressure of the intubation tube. Ulceration and necrosis from pressure of the tube have been spoken of by various writers as among the dangers of intubation.

In considering the statistics developed in this paper, it is of interest to compare them with the results obtained by the various writers; and the first thing that attracts attention is the high rate of mortality, especially in the tracheotomy series, but it is only fair to remember that in this series the operation was reserved for the more severe cases. Ten per cent. of all the cases reported were moribund at the time of entrance to the hospital.

INTUBATION.

Authors.	Cases.	Recov.	Per cent.
American	1,765	605	34.27
French and German	592	199	33.6
English	66	23	34.85

These, with the 392 cases of the present series, make a total of 2,815 cases, with 32.2% of recoveries. (So far as was possible, the cases reported in Brown's series of 2,700 cases are not included in this report.)

TRACHEOTOMY.

	Cases.	Recov.	Per cent.
Lovett and Munro's Series ⁴	21,853	6,135	28.
Komme's Series ⁵	1,559	605	38.8
American authors	367	98	26.7
English authors	23	9	39.13

These, with the 139 cases reported in this paper, make a total of 23,941, with 28.67 % of recoveries.

CONCLUSIONS.

Three hundred and ninety-two cases of intubation and 139 cases of tracheotomy have been reported, with a mortality-rate of 79.59% in the former and 88.5% in the latter; 2,815 cases of intubation and 23,941 cases of tracheotomy have been collected and analyzed, showing comparatively no difference in the mortality-rate of the two operations. The results depends more upon the nature of the epidemic than upon the operation. With intubation the results depend more upon the skill and experience of the operator than with tracheotomy.

Thirty-seven cases were seen at least a year and a half after recovery from intubation, with perfect voice, and with nothing that would indicate any ulceration from pressure of the tube.

Clinical Department.

TWO CASES OF APPENDICITIS, ONE ASSOCIATED WITH UTERINE FIBROID, THE OTHER WITH PREGNANCY.¹

BY S. J. MIXTER, M.D.,

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THE following cases of appendicitis are reported because they present a point of interest that the reader has not met with, either in the other cases operated upon by him, or among those reported by others. In both cases an enlarged uterus was present, and in both, the correct diagnosis was not made until the operation or the day before it. When an attack of peritonitis occurs in a patient having an abdominal tumor, one is always apt to ascribe it to the tumor. These cases show that the appendix should also be considered as a possible cause of trouble.

CASE I. Mary M., over fifty years of age; married twenty-three years; no children; always strong and well. Three years ago noticed a gradual enlargement of abdomen, which has continued to time of operation. Flowing slight at first, but during past year quite profuse. Within a year has had several attacks of abdominal pain; three months before admission to hospital had a similar attack, but severer than previous ones. A physician, was now called for the first time, and found the patient "almost in a state of collapse," with general abdominal tenderness and distention, vomiting, and other symptoms of severe peritonitis. The patient gradually recovered from these acute symptoms, but the abdominal tumor then detected, gradually increased in size; there was constant pain, more flowing, and increasing weakness.

She was admitted to the Carney Hospital July 1, 1891. On examination I found a tumor reaching

above the umbilicus; it was hard and apparently closely connected with, or a part of, the uterus, and firmly fixed in right iliac fossa.

The next day I opened the abdomen, intending to remove the tumor, probably a uterine fibroid. After tying the left broad ligament, the tumor could be more easily turned out and the adhesions on the right side reached. While separating these adhesions the finger opened a cavity containing a considerable amount, perhaps four ounces, of foul pus, and projecting into the abscess cavity was the swollen and inflamed appendix. The pus escaped into the peritoneal cavity, which was washed out with hot salt solution. The uterus was then removed at its vaginal insertion, and the stump dropped back. The appendix, together with a large mass of inflammatory tissue, was removed, the stump of the appendix being simply tied with silk; and a very large amount of iodoform gauze was packed into the pelvis and about the cæcum.

The gauze was removed on the third day. Recovery was rapid and uneventful, the patient being discharged well in about six weeks.

CASE II. Rose M., thirty-two years old, married. Four months ago, when seven months pregnant, had severe pain in abdomen, tenderness, fever, etc., and was delivered of a dead fetus. Did not recover well; pain and other abdominal symptoms persisted, and she was confined to her bed for three months. The pain was so severe that morphia was required every night. After being about the house for a short time she had an exacerbation of the symptoms that had never disappeared, and was admitted to the gynecological ward of the Carney Hospital. Dr. Johnson, on duty in that department, asked me to examine her with him, under ether. An ill-defined tumor could be seen and felt, extending from the iliac fossa to the ribs, and reaching almost to the linea alba. Nothing abnormal could be found in the pelvis.

The patient, having been transferred to the surgical service, was operated on September 23, 1891. An opening was made in the linea semi-lunaris, and a hard mass could be seen and felt outside the ascending colon and about the cæcum, the bowel being pushed toward the median line. This mass was plainly inflammatory; and on separating the cæcum from it, an abscess, situated at the brim of the pelvis, as large as a walnut, was opened, and in it were found two hard fecal concretions. Extending upward from this cavity, and outside the colon, could be followed a sinus; in the midst of the inflammatory mass and running parallel to it and behind it could be seen the appendix. This sinus was followed up by tearing with the finger until the kidney was reached. Just over the lower end of the kidney was fixed the much-thickened and perforated end of the appendix. This was the starting-point of the sinus, which ended in the abscess cavity spoken of just at the brim of the pelvis. The appendix was separated from its adhesions, cut off above to the bowel, and its invaginated end closed with a continuous silk suture. The cavity was packed with iodoform gauze.

Patient had a sharp attack of bronchitis following the operation, but had no peritoneal symptoms, and was discharged well in less than five weeks.

¹ Read before the Surgical Section of the Suffolk District Medical Society, November 4, 1891.

⁴ American Journal Medical Sciences, July, 1887.

⁵ La Tribune Médicale, Paris, October, 1891.

THE Brussels Chamber of Deputies has prohibited all public expositions or demonstrations of hypnotism.