"We find a pneumothorax on the left side, due to partial collapse of the left upper lobe. There is no x-ray evidence of any active disease in either lung."

There was considerable shock, prostration, and great pain accompanying this last attack, apparently a very severe one. Physical examination showed the heart to be two inches to the right. The right lung appeared to be normal; the left chest was hyper-resonant all over, except in the base and axillary region, where there was dullness, with numerous rubs and dry râles. There was diminished and almost absent breathing elsewhere, especially over the back on the left, where there were practically no breath sounds to be heard.

Since this last examination of December, 1919, I have not seen or heard from this patient until December, 1921, when I received word from him in Florida, where he had established himself in the cultivation of oranges. He wrote as follows:

"My health has been very good for the past two years. I have had several attacks of my old trouble, but they have been very slight, and pass away in a few days. The attacks seem to come in periods of six months. They do not trouble me very much, except to cause pains in my chest and back, around my shoulder; also there is some shortness of breath for a little while. I feel sure that neither of my lungs has collapsed to any great extent. The pains I have are like pleurisy, and do not stay in any one place. I am living out-doors, practically the whole time, and outside of the few troubles mentioned above, my general health is fine. My weight remains about the same—125 pounds—and I am able to do quite a lot of out-door work around my farm."

This is a striking and interesting case, demonstrating various important facts:

1. It demonstrates clearly what is to me an important and encouraging point, namely, the curability of tuberculosis. There have been a dozen times in the past ten years that this young man has had these attacks of pneumothorax when moisture in the way of râles, rubs, etc., have been present in his chest, but which have entirely cleared up, apparently, in two or three weeks' time.

2. It has shown, as mentioned before, that these attacks of pneumothorax, especially the mild ones, may closely simulate other non-pulmonary conditions, such as neuritis, gall-bladder disease, angina, etc.

3. Finally, it has shown the need of the routine careful examination of the chest, even under conditions when the symptoms do not point directly toward heart or lung disease.

THE American Association of Anaesthetists and the Mid-Western Association of Anaesthetists will hold a joint meeting in St. Louis, May 23-24, at Hotel Jefferson, the first three days of the A.M.A.

PRESENT CONCEPTION OF COLON PYELITIS AS REGARDS TREATMENT.*

BY E. GRANVILLE CRABTREE, M.D., BOSTON.

In this brief communication I plan to give what surveys of recent literature as well as my own experience, gleaned from cases seen during the past two years, indicated to be worth-while procedures in the handling of colon pyelitis. I shall not attempt to give any of the arguments on which this work is based.

ACUTE PYELONEPHRITIS.

A survey of the reports from a number of observers in many different clinics shows that, irrespective of the drugs used, the prognosis for cure of acute colon bacillus infections of the kidney is about equally good. All have made use of the same essentials of treatment; namely, rest in bed, light diet, forced fluids, and the treatment of pain and bladder distress by appropriate drugs. Some observers have done nothing further. Most observers prefer to alkalize the urine with sodium bicarbonate or sodium citrate at the beginning of the infection, some preferring to use sodium citrate after a short course of hexamethylenamine. In still other instances the course of the disease has been studied in cases where the intake of fluid has been kept low to insure greater concentration of the formalin in the urinary passages. The majority seem to prefer hexamethylenamine given with copious intakes of fluid. Since the results are not vitally different under these various forms of treatment we are justified in considering acute colon pyelitis somewhat in the nature of a self-limited condition in which the aim of the physician in charge is to contribute to the comfort of the patient and to give those drugs which are best tolerated in that particular individual. It is undeniable that certain inflamed bladders will tolerate hexamethylenamine and that others are aggravated by it but will be made comfortable by either complete alkalization of the urine or reducing acidity by the alkali drugs. Cystoscopic examination and bladder instrumentation are usually contraindicated during the acute stages of the disease.

CHRONIC PYELITIS.

Acute pyelonephritis, whether it marks the onset of the infection or is an exacerbation of a chronic condition, in its quiescent state becomes pyelitis. In this form it is capable of persisting for an indefinite period of time. I have endeavored to determine some facts as to what becomes of these cases. They fall into three classes.

1. Many infections disappear completely and patients remain cured after a few weeks

*Read at a meeting of the Out-Patient Staff of the Massachusetts General Hospital, January 25, 1922.

of symptoms. The exact percentage of these early cures will probably never be known. They are not a hospital type of case. They are most frequently seen by the general practitioner. No method of procuring accurate data is apparent to me.

2. Cases from which infection disappears within a few months or perhaps a year. We have pyelograms and complete data, obtained in the subacute stage of disease in a group of these cases, and know definitely that the duration of the disease has been but a matter of a few months. Pyelograms in these cases have invariably shown normal kidneys. In a few instances recovery has taken place at a later date after a number of years and a variety of treatments. The percentage of these latter cases has been small, and complications such as pregnancy and infectious diseases have been frequent interruptions to the course of the disease.

3. Chronic, persistent pyelitis. Compared with the incidence of infection, this group is probably small. It is likewise the group commonly seen in hospital practice. It is made up of two classes of cases: one, those with foci of reinfection such as teeth, colon stasis, etc.; the second, those cases in which there is urinary tract or pelvic stasis. Most of the stasis concerned in pyelitis is ureteral and within the pelvis.

As a working basis for the treatment of these cases of chronic, persistent pyelitis we have considered two years' duration to be a fair test for spontaneous recovery of the uncomplicated pyelitis. Patients in whom pyelitis has persisted for two years or longer, we believe to be entitled to a complete urinary tract examination. The results of two years of such investigation have shown us that pathology is found in a very high percentage of the cases. This percentage is somewhere between 75 and 85%. The problem now before the urologist is to devise a standard by which early obstructive changes in the kidney can be recognized and correction made before permanent damage, which may result in the loss of the kidney, takes place. That this destructive process is a matter of years seems to me to be certain. I am equally assured that certain of these cases can be cured by proper cystoscopic procedures or surgical procedures.

TREATMENT.

Recently three procedures for the treatment of chronic pyelitis have been added to the drug treatment on which we have previously relied. These are: (1) Pelvic lavage. (2) Over-dilatation of the ureters by method of Hunner. (3) Renal suspensions and plastics on the ureter for early renal stasis.

Drugs: During the chronic stages of the disease hexamethylenamine seems to be the ac-

cepted drug. In some instances lavage with silver nitrate is better tolerated in alkaline urine.

Pelvic lavage with some antiseptic solution, of which silver nitrate and mercurochrome give best satisfaction, has already proved its usefulness. I personally have found it most useful in the treatment of those cases in which there is considerable pus in the urine. It has been possible to reduce these to a bacilluria which is tolerated by the patient with much less severe symptoms than the purulent urine, and to produce actual cure in some. As a means of actual sterilization of the urine, its results have not been so striking.

Over-dilatation of the ureters (by the method of Hunner) I have found useful, particularly in cases of considerable bilateral pelvic and ureteral damage, in some instances associated with cystitis cystica and presumable cystic degeneration of the ureteral mucosa. In two or three instances it has given relief in cases of pyelitis which followed in onset pelvic inflammatory changes and in which there was dilatation of the ureters in the upper portions. In strictured ureters the dilatation of the stricture is of course taken for granted.

Better development of pyelograms has demonstrated the remarkable frequency of sagging of the kidneys with kinking of the ureter while the patient is in the upright position. The resultant slow dilatation of the renal pelvis is very frequently accompanied by pain. Many of these pelves are found uninfected. In many this pathology exists previous to the onset of the infection, in others it develops after the incidence of infection. In any case such a kidney, once infected, retains infection unless some remedial measure is applied. Plastic operations, suspensions and freeing of the ureters have given us cures in early cases of this type. Plastics, after extensive damage has taken place, are usually unsuccessful.

In some instances, in spite of negative x-rays, small "ball valve" stones can be demonstrated by pyelogram and wax-tipped catheter. Removal of these greatly benefits, if not actually cures, the pyelitis behind them.

In certain instances there is very extensive damage to the ureter and pelvis with still useful and even good kidney substance above it. Often this condition is bilateral. These kidneys must be treated by palliation unless symptoms are intolerable. Palliation is chiefly through lavage.

WARNINGS.

1. The operation for suspension of the kidney has rather generally fallen into disrepute. To a great extent this reputation is deserved. By no means all sagging kidneys need tampering with. We believe that those should be considered to demand fixation only when, as

a result of function tests and pyelogram, definite stasis can be determined. That this stasis produces changes comparatively rapidly (within a year) has been demonstrated. All suspensions are now being followed in the hospital by frequent pyelograms to enable us to make a final definite statement as to whether suspension will not only give relief from pain and allow us to cure the infection of the pelvis, but will also arrest the destructive changes in the kidney.

2. It cannot be emphasized too greatly that the cure of pyelitis, as well as the existence of it, must be determined by the presence of bacteria in the urine, not by the presence or absence of pus cells and symptoms. Many patients who have had two or three attacks of pyelonephritis are considered to have had reinfections when in fact a colon bacilluria has been present throughout the intervening periods of freedom from symptoms.

Needless to say, it is my hope that as a result of study, certain cases may be recognized as capable of cure without particular treatment; that valuable means of treatment, such as pelvic lavage, may not, through misapplication to hopeless types of renal damage, receive undue discredit; that by recognizing early renal stasis we may be enabled to cure otherwise permanent colon bacillus infections and, finally, that by early recognition of these cases conservation surgery may be done to preserve from further damage good kidneys in which there is both infection and stasis. We have evidence to show that these two conditions produce destructive changes in the kidneys which tend toward pyonephrosis.

Medical Progress.

PROGRESS IN LARYNGOLOGY.

BY HARRIS P. MOSHER, M.D., BOSTON.
AND GORDON BARRY, M.D.

A REVIEW of the recent literature dealing with laryngology shows progress in a good many lines. In nasal plastic surgery, both external and internal, laryngologists are applying the perfected technic of their army days. The lachrymal sac and nasal duct operation has been refined. Retrobulbar neuritis receives prominent attention. As bronchoscopy and esophagoscopy are being more generally employed, contributions of unusual cases are increasing; while an assembling of the already extensive data and its classification into types tends to standardize this work. The usual number of new suggestions in tonsillectomy instrumentation are forthcoming. Internists are becoming increasingly conscious of infective foci as causes of systemic disease. Chronic infections about the teeth, tonsils, and sinuses which formerly were considered too mild to require operative

drainage, are now blamed for many systemic complications; and the internist who insists on the elimination of these low-grade infections is reporting resulting cures. Pulmonary complications following tonsillectomy are discussed. The value of the Schick test is more definitely outlined. The more general use of the skiagraph has checked up the dentist and the oral surgeon. Closer coöperation obtains between the laryngologist and the dentist. Finally, the radiologist and roentgenologist have offered real help in the control of both infectious and malignant diseases.

ACCESSORY SINUSES.

L. W. Dean (Iowa City) reports from an extensive experience with suppurative sinusitis in children. In most cases, the removal of the tonsils and adenoids cleared the process. But in many, turbinotomies had to be done and even radical sinus operations. All the cases were x-rayed. This was necessary not only for diagnosis but to facilitate proper operative orientation; for in small children the antrum is small and not as easily entered. In the discussion, some of the members of the American Laryngological Society, before whom it was read, expressed surprise that Dr. Dean had found it necessary to take such radical measures in children so young. The reply was that radical interference was only undertaken after lesser measures had failed, and that these extreme cases had nephritis, pyelitis, endocarditis, arthritis, or some similarly grave condition which did not yield until the sinus infection had been cleared. He thought that local severe climatic conditions were responsible for his having such stubborn cases.

Joseph C. Beck (Chicago) suggests a modified Lothrop operation for the simpler frontal sinus suppurations. He would make a small external incision and remove only a large enough table of bone to permit easy operative access to the diseased sinus and to the septum between the two frontals. He would break down this frontal septum and then stop the operation. To curette the naso-frontal duct and anterior ethmoid cells on the diseased side is only to invite later granulations and obstructing adhesions. Removing the frontal septum would let the diseased sinus drain into the well frontal sinus and out through the well and patent naso-frontal duct. This would let the diseased frontal duct clear of itself. He suggests this for the acute cases where a radical Killian operation is not called for. The reader will think of objections and advantages in this procedure. It offers a new approach.

R. C. Lynch (New Orleans) describes the technic of his radical frontal sinus operation. The method resembles closely that of Killian, with one important difference. The initial incision is the same, but then the soft tissues are