If we find that the patient cannot be put under without cyanosis, we stop. We give it to no negroes, because we cannot watch the color.

In regard to the infiltration method, I have been using it for several years and I have never seen ill effects. I do not use it in the prostate gland. I use it in the skin incision.

SPONTANEOUS RUPTURE LATERAL SINUS WITH GENERAL SEPTICAEMIA IN ULCERATING SINUSITIS.*

By E. H. CARY, M.D.,
Dallas, Texas.

I have been led to report this case because I have not been able to find many cases similar to it in the literature at my disposal. The following was written by an interne in our hospital, The Baptist Memorial Sanitarium, truthfully recording the immediate history as it appeared to her family and the patient. Her physician stated she had been sick several days before the hemorrhage, complaining greatly of pain over the mastoid, with rigors and fever, the fever being up to 104, and after the hemorrhage the pain and fever subsided, according to their observation at the time.

This young lady, age 16, an inmate of an orphanage where she had reasonable care and observation by members of the medical profession, had a discharging ear, with the following points in her history, which may be considered of interest:

Family History: Father died at 36 of pneumonia. Mother at 35 of acute Brights. Three sisters living in good health. One sister died at seven months of so-called "congestion."

Social History: A maiden of 16 years, an inmate of I. O. O. F. orphanage.

Previous History: Had had measles, pertussis and lobular pneumonia. Had measles at two years of age and had as complications and sequelae a discharge of pus and bloody serum from right ear

and a diarrhoea with intestinal pains and marked bloating of abdomen. Convalescence was protracted and the ear continued to drain for about sixteen to eighteen months, more or less profusely. At about 5 years of age she contracted whooping-cough and this was followed by lobular pneumonia. Her recovery from this was slow. Bowel condition for past few years has been good, and evacuations fairly regular. Appetite good. Normal weight, 120 pounds; present about 112 pounds.

Present illness began as pain in the right mastoid region three years ago after a period of ten years of slight discharge from ear. The ear has drained continuously since attack of measles and has alternated serum and pus. When the drainage would subside slightly she would have dull, aching pains over the right mastoid region. The ear was treated when the patient was about five or six years old and the discharge modified for a time. About three years ago she began to have severe headaches at intervals and the drainage began to increase. When the drainage decreased the headaches increased and then the drainage broke loose and flooded the ear and the headache was relieved for a few days.

Four days ago (September 3, 1914) there was a rapid and profuse hemorrhage from the right ear. From one and one-half to two tencups of blood was lost, which was dark in color. From this time she began having fever and has progressively grown worse and rapidly become weaker.

These two facts, diminution of pain and fever, immensely relieved the attending physicians and made them feel she would be as well as ever.

Following this, however, she had rigors and sweats with fever, much restlessness; hence their desire for help.

She was brought on the fourth day some sixty miles for an immediate operation, based upon a telephone diagnosis that she in all probability now had a thrombosed sinus. So on September 7 she arrived at the sanitarium at 8 a.m. with a normal temperature; leucocyte count, 16,500; pulse, 78; respiration, 20. Put to bed, with notation on chart: "Complains of pain in head and ear." To operating room at 9:30 a.m., where a radical mastoid plus a sinus exposure, with whatever else needed to meet the condition, was contemplated. The overlying cortex was found extremely thin, and immediately the first strip of it was removed a profuse hemorrhage was started, which was controlled with iodoform gauze packs. Not appreciating at the time the extent of the rupture of the lateral sinus and believing the chance for infection was greater throughout the system with

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the internal jugular intact, I immediately ligated and excised the internal jugular vein, which was noted at the time collapsed. I believed and remarked this was due to a clot well established in the bulb.

My attention was now directed forward to clean up the superior wall down to middle ear and to work my way backward with an effort to rid the patient of granulation tissue and pus and gain room to attack the lateral sinus with a cleaner field, thereby lessening spread of infection. This was accomplished up to the point of the antrum, when fresh hemorrhage flooded the field, which new packs controlled. Pressure with the forefinger of my left hand on pack made it possible for me to clean all of the antrum and area near posterior wall down to the tip, removing principally old pyogenic membrane, which had filled all of this area, as we have often seen.

The thin cortex immediately over the area where lateral sinus should have been could not be removed on account of ever increasing flow of blood. Hence the wound was packed and patient sent to bed with the hope of attacking the case when a clot might be well formed and thereby delivered the next day in the absence of less bleeding.

Normal saline was started, Murphy method, soon after reaching her room. At 2:30 p.m. there was vomiting green fluid. Temperature, 99.2; pulse, 132; respiration, 18. At 4 p.m., emesis; clear fluid. Temperature, 100.2; pulse, 132; respiration, 18. At 8 p.m., temperature, 100; pulse, 72; respiration, 16. Expelled saline which had accumulated.

There was large amount of flatus and she was suffering intense pain over the abdomen; pulse weak and irregular. At 12 midnight, pulse was varied, but temperature, 100.4; pulse, 96; respiration, 20. Urine voided in good quantities. She now complains of more pain in the back and abdomen. At 12:30 a.m., emesis $\frac{1}{2}$ liq., and has slight chill. So with restlessness and pain over abdomen, pulse weak, varying in volume and frequency; mentality clear. Eight a.m. next day was reached with temperature, 100; pulse, 72; and respiration, 18. Complaining of pain in abdomen. In a profuse perspiration.

So she went through second day with maximum of temperature, 100; pulse, 76; respiration, 22. Minimum of temperature, 98.6; pulse, 84; respiration, 18; with condition on the whole fairly good. Delayed the secondary operation for the next day in face of abdominal symptoms, which seemed the most serious, with a chart which doesn't seem out of harmony with ever-increasing septic peritonitis with exception of pulse, and where septic stools, nausea and vomiting, pain, tympanitis, facial ex-

pression, etc., were all becoming more prominent. Finally the pulse rate was involved at the end of second day, which did not come down, but went up. Ten o'clock in the morning of the third day her ear was dressed, in the face of increasing symptoms of septicaemia. Her ear was found dry and bloodless. There was some necroses with characteristic odor. Operation was planned for early afternoon in spite of symptoms. She had a chill at 1:30 a.m. Repeated emesis, increasing pulse rate. The recorded temperature at 8 a.m., however, being 99.4; pulse, 100; respiration, 22. At 11:15 severe chill for twenty minutes; pulse rate, 160.2; respiration, 24. At 11:45, temperature, 102; pulse, 150.2; respiration, 24. At 12:40, temperature, 100.6; pulse, 135; respiration, 36. Three p.m., temperature, 100; pulse, 120; respiration, 26; at which time she was taken to the operating room with the thought of finishing the operation, and in face of grave prognosis. We had special anaesthetist and exercised due care. The remaining cortex being removed, when within ten minutes from beginning of operation it was noted the girl was dead. After due effort to revive her. Her family permitted a further exploration, which showed an interesting condition, but refused an autopsy.

We noted that what was apparently lymph thrown out to block an opening, was in reality a fringe of the anterior border of sinus wall, and that the anterior wall of sinus was entirely gone far back towards the bulb. There was a small clot in the remaining lateral sinus which was apparently collapsed. The posterior wall of the lateral sinus was to all appearance the anterior wall. The obliteration of lateral sinus accounted for the collapse of the internal jugular vein. This had been ligated and excised two days before.

There was some evidence of commencing meningitis in the dura of the middle fossae. No abscess in the right hemisphere.

CONCLUSION.

1. Neglected purulent middle ear and antrum in the face of months of warning which nature was good enough in this case to give.
2. An ulcerated sinusitis, with rupture most likely, in such an environment, to develop general septicaemia with or without clotting.
3. Death likely to result from embolus and most likely in this case due to release of pres-

sure where cortex was removed, when emboli from the remaining part of the sinus would fall back into the heraphili, thence into the sinus, of other side, on to the heart and likely to the coronary artery, with sudden death.

DISCUSSION.

Dr. J. W. Jervey, Greenville, S. C.—I should like to say that I merely want to draw attention to the difference between scientific and unscientific methods in a matter of this sort, and yet curiously enough by the same old Dame Nature referred to before, the result was recovery, while Dr. Cary's result was not recovery. Scientific methods and the best possible attention gave no results for him.

This was a case that occurred in the practice of a friend of mine, a general practitioner. He was hurriedly called to see a case where there had been a mastoid abscess that was very superficial. It had eaten through the external plate and was appearing on the surface of the skin. He had seen the case and did not know what to do for it and thought he would poultice it and let it get well. But before he could see the case again there was a spontaneous rupture of the lateral sinus. The people in the house were very much alarmed. He was immediately sent for, and when he got there the patient, a young woman, was bleeding frightfully. In recounting the thing to me, he told me that she had bled a quart. When he got there he saw there was only one thing to do, to try to ram something in there to stop the bleeding. He packed as much gauze as he could work in, left it in place for a few days and the patient got well. That is the only case of spontaneous rupture of a lateral sinus I have ever heard of.

Dr. F. P. Calhoun, Atlanta—I am not familiar with the literature on the subject of spontaneous rupture mentioned by Dr. Cary, but it has always been a mystery to me why such things have not occurred before. When an interne at the New York Eye and Ear Infirmary, ten years ago, I had occasion to report 100 cases of sinus thrombosis, and I am sure that a case of rupture has never occurred at that institution, which has probably more cases than any other institution in this country.

Dr. Car: (closing)—I was also at the New York Eye and Ear Infirmary some years ago as an interne, and in my service I was with Dr. John Richards. I wrote him and asked him to look up the literature on this subject. I have had two letters from him since I arrived here. He said he could not find any report of spontaneous rupture of a sinus without there being some diseased or ulcerating condition to cause it. He is not very definite about it, but he says there have been some cases of spontaneous rupture of the sinus under such conditions. I do not doubt it myself. As Dr. Calhoun has just said, with these old troubles extending over years and years, such as you have all had to operate on, old mastoid cases where you find nothing but masses of ac-

cumulated stuff, with all the bone eroded, you wonder why in the world something has not happened to cause a rupture. But this is the first case I had ever seen. I never dreamed I had such a thing as extensive as that, and only when the child had died and I was able to see this little fringe closing the lateral sinus, I found that what was the posterior wall was now the anterior wall and it was all gone. And the remarkable thing was that there was such a little clot.

THE RELATION OF PATHOLOGICAL CONDITIONS IN OTORRHINOLOGY TO GENERAL MEDICINE AND SURGERY.*

By J. A. STUCKY, M.D.,
Lexington, Ky.

The above topic is not the one I gave to the Chairman of this Section when I was asked to prepare and present a paper for this meeting. This topic is chosen because it was impossible, on account of the war in Europe, to prepare an essay and have it up-to-date on "The Present Status of Major Surgery in Otorrhinology and its Relation to General Medicine and Surgery." For many reasons I regret the necessity of changing my topic, and must give almost entirely my personal views on the topic chosen.

For some years past I have contended in medical journals and in private discussions that the relationship and dependence of the oto-rhinologist (and vice versa) to the internist, neurologist and general surgeon was not as close and intimate as it should be. Time, experience and closer observation have more deeply confirmed this view. The findings of eminent internists, surgeons, neurologists and pathologists in the last year or two have given new weight and strength to my own conclusions. Never was it truer, than today, that no special branch of medicine can be practiced independently. Every (so-called isolated and

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