large, tender swelling extending well down the neck. After feeling for a soft spot I opened the quinsy with a pair of StClair Thomson's forceps. A little pus came out as the forceps were introduced, but their withdrawal was immediately followed by a gush of blood, like the bleeding one occasionally gets when enucleating a tonsil. The patient, greatly alarmed, sat up and coughed and spat mouthfuls of blood over the bed and all around. I made her lie down, and, introducing my finger into the mouth, easily stopped the bleeding by quite gentle pressure on the incision. As soon as possible I replaced my finger, which the patient naturally could not help biting, by a swab on a long holder, and kept up the pressure for about twenty minutes. On removing it then, the bleeding had ceased. About three-quarters of an hour later the patient complained that her throat was swelling up inside, suddenly sat up in bed, and began to pour blood from the mouth again. I again applied a swab and stopped the hæmorrhage. After ten minutes of this pressure the hæmorrhage had again ceased. The question then arose as to what should be done to prevent a recurrence. Tying the carotid was ruled out by the septic condition of the neck; plugging the wound, of course, was quite impossible. The only practical plan seemed to be to have one of us or a nurse sit beside her ready to re-apply pressure if it should be required. As a matter of fact no further bleeding took place, but the patient gradually sank, and died of syncope during the night.

Whether, apart from the hæmorrhage, she would have died it is impossible to say. She was, as already stated, very ill and in a septic condition, but was not moribund before the hæmorrhage occurred.

What exactly happened when the forceps were introduced into the abscess, whether they directly tore a vessel, or whether a vessel, which had been nearly eroded by the suppuration, ruptured when the pressure was suddenly reduced, I had no means of determining. That the infection was a very virulent one was practically demonstrated on myself, for although at the time I could not find any break of surface on my finger, yet after about twenty-eight hours one spot which the teeth had indented began to itch, and next morning the lymphatics were red up to, and the glands swollen and tender in, the axilla.

SOCIETIES' PROCEEDINGS.

ROYAL SOCIETY OF MEDICINE—OTOLOGICAL SECTION.

April 19, 1918.

President: H. J. Banks-Davis, M.B.

Aural Bacteræmia, with Illustrative Cases—Richard Lake (see p.110 of the present issue). Case 1: P. S——, aged nine, with the following history: He was first seen on May 31, 1917. He had had earache in the left ear the previous summer after an operation for adenoids. Also an indefinite history of earache just before this. The present attack commenced at the end of January. The earache improved, and did not recur until May 25. When I first saw him his temperature was 100·8° F., and there was tenderness over the whole of the mastoid. The tympanic membrane was covered by desquamated epithelium, but there was no bulging of the drum nor any redness. The evening before operation the

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temperature was 103° F. Cultures from the blood showed a free growth of staphylococci. The morning and evening temperature for the first four days after the operation varied from 99·6° F. in the morning to 101·8° F. in the evening. From the fifth day onwards he had no rise of temperature and did perfectly well.

Case 2: *Example of a more Virulent Case.*—H. V. M——, aged seventeen, bugler, R.N., was discharged from the Service at the end of 1916, after suffering for six months from otitis media. He visited the War Pensions Committee two days before admission, and was referred to the Seamen's Hospital for treatment. When seen the patient looked extremely ill. The right ear was discharging thick pus, and there was tenderness over the mastoid. The temperature was 97° F., and the pulse 84. He was ordered urotropin, 10 gr., three times a day. His ear was washed out with a chlorine lotion, and he was given large quantities of fluid. On October 27, 1917, the blood-cultures showed a lively growth of streptococci. The radical mastoid operation was done on November 1. Two pints of saline solution *per diem* were injected, and on the following day he was given two million units of antistreptococcic vaccine. On November 3 the temperature was normal. There was nothing to report except that the pulse and temperature ran gradually up. The temperature went up to 101·3° F., and fluctuated, and the pulse 96. The pulse and temperature fluctuated, but the temperature was not again above 101° F., nor the pulse above 96. On November 13 septic granulations began to appear in the ear. On November 12 there was some facial paralysis, and on the following day the deep reflexes became sluggish. The next day the oculist described the right eye as having the disk margins completely obscured, and the left eye as nearly so, and he therefore considered that some cerebral complication was present. The wound was re-opened, granular tissue scraped away, and the dura mater of both fossæ exposed, but the condition looked so normal that nothing further was done. The man gradually recovered, and has now left the hospital quite well. (Notes by Dr. Waine.)

Case 3.—P. W——, aged fourteen. He was taken ill at the Royal Naval School, Greenwich, with profuse discharge from the right ear, and a temperature of 102·6° F. This high temperature persisted without intermission. There were no cerebral symptoms. There was slight pain at the back of the neck, but no muscular stiffness. Lumbar puncture showed that the cerebro-spinal fluid was clear, and there was no growth of bacteria in cultures. Blood-cultures showed a growth of streptococcus. He was given 10 c.c. of antistreptococcic serum. He was admitted into the Seamen's Hospital on December 21. He had suffered from middle-ear disease for the last eight years. On admission his temperature was 103° F., and his pulse 112, weak and irregular. There was a purulent discharge from the right ear, tenderness in the mastoid region, and clear mentality. He complained of pain in the neck on moving the head. A complete—not radical—mastoid operation was done. In this case the temperature became subnormal on the first day, rising to 101° F. on the second. The pulse-rate remained high. Antistreptococcic serum was given subcutaneously, and saline solution administered. The boy was slightly delirious. The saline was repeated. On December 25 there was an abscess under the right clavicle, and a pint of saline was given. By December 25 the mastoid wound was cleaned. Early in January he had an abscess in the left buttock—a most unusual symptom. No others were present. (Notes by Dr. E. J. Quick.)

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Mr. MARK HOVELL: Major Richard J. Cowen had a patient with septicæmia, following parturition, temperature 104° F. He injected, subcutaneously, 5 c.c. of collosol argentum, and the temperature in a very few hours fell to 99° F. Within the twenty-four hours he injected another 5 c.c. of the same drug; the temperature then fell to normal and remained so. A drug which will do this is worth knowing, and will be of use especially to general practitioners.

Dr. JOBSON HORNE: It is necessary to bear in mind that even in the presence of suppurative disease of the ear the resulting growth, whether it be in the words of the author "a free growth of staphylococci" or "a lively growth of streptococci," may be due to one of many causes other than aural disease. The contingency of these other diseases must be eliminated before attacking the mastoid.

Dr. DAN MCKENZIE: The whole interest of the subject lies in the question of the diagnosis between bacteræmia and sinus thrombosis. I should say that some of the cases on which we operate for lateral sinus thrombosis without finding a thrombus in the sinus and in which the patient gets well have been cases of bacteræmia. It will always be difficult to decide when there is or is not a clot in the sinus because of the presence or absence of bacteræmia. Can we diagnose a simple bacteræmia from one in which there is sinus thrombosis? When a rigor is present one expects to find a thrombus in the sinus. But there are many cases of sinus thrombosis without rigors, especially in children. When there is any doubt, I should be inclined always to open the sinus to make sure, because I think it is the general experience that when a sinus has been opened the subsequent course is not jeopardized. My experience suggests that it may even be less dangerous to expose a lateral sinus and to explore it than to expose it accidentally and to leave it unopened. The danger of the accidental operative exposure of the sinus was first raised by Mr. Hunter Tod at the meeting of the American Surgeons in London in 1914, and my subsequent experience confirms his view.

Dr. WATSON-WILLIAMS: I agree with Dr. Dan McKenzie to this extent—viz. that if I thought there might be a commencing clot, I should open the lateral sinus, and should feel this course safer. I am not clear as to what was the operation referred to in Case 1. The result is interesting as supporting the value of anti-streptococcic serum. Failures are sometimes due to one's giving inadequate dosage. In a case of streptococcic infection I give at least 30 c.c. to 40 c.c. in the first twenty-four hours, and perhaps I give 20 c.c. the next day. I then stop, unless there are strong indications to go on. I have not injected it into the spinal fluid.

Mr. H. L. WHALE: I am surprised and interested to hear the view expressed as to opening the sinus. I have always thought and taught that of all the structures one encounters in operating on the lateral sinus, the dura is the most resistant, to clear away the bone being the paramount object; and when you get to the sinus you are safe, provided it is not opened.

Mr. MOLLISON: I have been unfortunate in blood-cultures, for only rarely have I been able to grow anything from blood specimens. It takes about three days to get cultures, and in that time one may lose the patient, unless active treatment has been instituted. It is difficult to decide between bacteræmia and pyæmia. I have seen cases in which the ear has eventually shown itself to be the cause of the disease, but the

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first manifestation was secondary abscesses: the lateral sinus in one case subsequently became completely obliterated as a result of the disease.

Mr. W. Stuart-Low: Discussion of this subject is important, as there is confusion in the minds of some practitioners. Introducing a new name does not help. The practitioner knows of septicæmia and pyæmia and sapræmia. He seldom calls us in for septicæmia, waiting for something else to develop. If this paper should lead practitioners to call us in sooner I should welcome it, but I think it will only complicate matters. Certainly we are often consulted too late. There is always an idea of hanging on without operation, and that is encouraged by remedies being suggested, such as vaccines and urotropine. It is soothing to be told the temperature will go down, but meantime the patient is dangerously drifting. Urotropine has been much animadverted upon. It is wise to be sure there is no kidney or other disease before giving it. I have seen a number of cases in which vaccines have been used and pneumonia has subsequently developed, the patient remaining in a dangerous condition for some days. I have a shrewd idea that many of the cases which give trouble are those in which the throat has not been operated upon, and the focus there has acted deleteriously, prolonging convalescence.

Mr. O'Malley: It is difficult to differentiate between bacteræmia, in which the blood gets infected by a focal nidus in the ear, and a pure sinus thrombosis the result of acute mastoid suppuration. Early last year I had a patient, a man, aged thirty-six, and the medical officer told me he complained of deafness and pain in one ear for three days: he was when seen complaining of tenderness over the mastoid. I found his membrane was definitely injected, but there was neither œdema nor pus. He was deaf on one side, and over his mastoid he was tender along the posterior border and also over the tip. The temperature was 104° F.; I could not ascertain any history of rigors. Sinus thrombosis seemed to be the only reasonable diagnosis: if there had been a rigor it would have pointed definitely to the need for operation. The medical officer demurred, saying that as the man had been abroad malaria should be thought of. A blood examination was made, but it was two or three days before a report was received. On the third day the temperature was 104° F., but there was still no pus in the ear, and apparently no further progress had been made in the local infection. By the fourth day we got a report that there were some pneumococci in the blood, and a smear from the throat revealed the same organism. The general conditions were improving, there was nothing wrong with the chest, and I concluded he got a pneumococcal infection through his ear into the blood. On the fifth day the temperature fell to normal and remained so; there was no subsequent suppuration. He had had no treatment except quinine on the malaria hypothesis. I congratulate myself on not having opened his mastoid. If in this case I had done so I should have attributed the improvement to that measure.

Mr. C. E. West: The question of general infections is very difficult and wide. The infection varies, from a mere temporary blood invasion which may disappear before any culture can be made, to a pyæmic condition with multiple abscesses in the viscera. It is a mistake to attempt to differentiate these conditions by terminology, as this may suggest definite clinical entities which do not exist. To speak of them as blood infections or septicæmias or bacteræmias and mix all the cases together is the safest way. There is a type apparently the result of bacteræmia which I have seen once or twice, which was beautifully

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developed in a recent case, a type not mentioned by Mr. Lake. I mean a non-suppurative local but distant infection, very much of the class of subacute rheumatism. I have seen it follow tonsillitis and acute invasions of the mastoid, and have seen it in connection with suppurating war wounds. These cases have a fluctuating temperature and sweats, and there may be pericarditis, tender, sometimes swollen, spots, often about joints or in connection with ligaments and tendons and periosteum. If the tender spots are on the scalp the patient cannot bear brushing of the hair. The most striking point in one such case was an inflammatory focus in the neighbourhood of the sciatic notch, with intense pain and tenderness along the course of the sciatic nerve. What used to be described as minor pyæmias are of great interest. It is a condition for which we should keep our eyes open, but about which we should not be unduly alarmed, for if they are hung on to they will get well. My specific is large doses of sodium salicylate or aspirin. The majority of patients will not welcome constant injections of saline, and if they can be got to take plenty of fluid by the mouth I think the result will be as good.

The PRESIDENT: With regard to some of the potent drugs recommended to be used to reduce organisms in the blood, it seems that they may do as much harm as the bacteria themselves. I have found that inoculating anti-streptococcic serum into the spinal theca has the best effect. Smaller doses can then be used, and its action is quicker than when introduced into the veins. Liquor ammoniæ prevents clotting in lateral sinus infections. I order three times a day five drops in water. I have mentioned it to several surgeons, who have used this for thromboses in varicose veins in legs and elsewhere. The effect of this solution, which is rapid in its results, impedes thrombosis, and to those who have not tried it I can strongly recommend it in these cases, added to which it is a strong circulatory stimulant, and benefits the patient in other ways.

Dr. WYLIE: In several cases similar to Mr. Lake's I] fully injected into the vein 5 c.c. of 1 in 1000 dilution of p mercury. When suffering from streptococcal poisoning, sw axillary glands and high temperature, I rapidly recover injection of the solution.

Mr. MUSGRAVE WOODMAN (Birmingham): With re McKenzie's remark about exposing the lateral sinus, do exposing the bony sinus or the dura mater? I have opera of these cases, and when in doubt I always slice off th I expose the sinus, making a $\frac{1}{2}$-in. opening. I never op itself unless it is obviously thrombosed, and I have not effects to occur.

Dr. DAN MCKENZIE: The operative exposure of the l like that described by Mr. Woodman, is harmless in mo there are a certain proportion in which sinus thrombosis fol to ten days. When a sinus has been exposed I am anxio case until the tenth day. And when, under such circumsta[illegible] had to open the sinus, I have been certain that exposure at the time of operation had infected the sinus. Consequently, I have almost decided it is safer to open and expose the sinus. Risk of thrombosis occurring after operation is less when the sinus, if exposed by disease, is covered with granulations.

Dr. KELSON: The fallacy of confusing *post* with *propter hoc* is most

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common in these cases. Remedies such as those mentioned should not be accepted upon the experience of a few cases. Many cases recover by themselves.

Mr. SOMERVILLE HASTINGS: In cases of doubt it is wise to open the lateral sinus groove. I have never regretted doing it, but deplored omitting to do it. It is a very important matter, especially in children, because it is often difficult to know whether there are granulations on the lateral sinus. I always open the lateral sinus groove, and freely expose the sinus in doubtful cases. I am surprised to hear of Dr. Dan McKenzie's experience.

Mr. LAKE (in reply): I felt interested in the remark about collosol argentum; I have desired to try it but have never done so. The question of the exposure of the sinus must be left to the individual surgeon. My position is that I would not open a sinus unless I saw a good reason for doing so. The diagnosis of pyæmia and bacteræmia is difficult: I can draw no hard-and-fast line. Sinus pyæmia has been so often discussed that I did not wish to introduce it on this occasion. I do not regard urotropine as a specific, and it must be used with due precautions.

Recurrent Herpes of Auricle.—H. J. Banks-Davis (President).—The patient is a boy, aged nine. Ever since the age of four he has had attacks of herpes regularly once a year: "he feels ill and is feverish," and has an aural eczematous discharge. The attack lasts two weeks and is always unilateral, affecting the right ear alone. He was sent to my department by Dr. Pernet. There was no glandular enlargement.

Mr. H. L. WHALE: Was there dental caries, or any other cause of irritation of the fifth nerve?

Dr. DAN MCKENZIE: Dermatitis herpetiformis must be remembered: it is like herpes, but recurs in the same place. I have seen it return three or four times.

The PRESIDENT (in reply): We could find no cause of irritation. Dr. Pernet sent the case to me. The patient had a discharge from the ear, which was eczematous. Dr. Pernet made the diagnosis given in the title: he had had him under care some time. Vesicles were present on the back of the auricle as well as on the front.

(*To be continued.*)

ROYAL SOCIETY OF MEDICINE—LARYNGOLOGICAL SECTION.

November 2, 1917.

President: Dr. A. BROWN KELLY.

PRESIDENT'S ADDRESS.

(*Abstract.*)

(The PRESIDENT, having pointed out that it was a fitting time to consider whether the Section was furthering in the best possible manner the progress of laryngology, proceeding to discuss its present and possible future relations to investigation, teaching and publication, said:)

First, with reference to original investigation, I should like to impress

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