

exercise in the morning without previously partaking of food. At 4 A.M.—having walked thirteen miles and a half along a level road—we each chewed forty grains of the leaf. We then walked seven miles along a very rough mountain-road, continually ascending and descending steep hills. At 6 A.M., we had reached the base of a mountain which we proposed to ascend. We each took forty grains more *cuca*. I walked steadily up the hill at a moderate pace. Dr. Bernard, on the other hand, walked very rapidly up, and met me on his return journey before I had quite reached the summit. I rested for seven minutes on the top of the hill, and then descended and rejoined Dr. Bernard, who had completed the ascent and descent in ten or fifteen minutes less than I occupied. We then walked half a mile up a steep hill, got on a car, which was waiting for us, at 7.45 A.M., and, after a rapid drive, reached Derry at 10.30 A.M. I then had breakfast; and after breakfast, feeling drowsy, I lay down without undressing, and slept for an hour and a half. I rose at 1 P.M., spent the rest of the day attending to my usual duties, had also an hour's row on the river, went to bed at 10.30 P.M., and slept soundly till eight the next morning.

I noted the sensations experienced by me during the day as follows. On starting at 1 A.M., I was sleepy and tired; walking in the open air refreshed me, however, and at 4 A.M. I was not excessively fatigued, but was somewhat hungry. On chewing forty grains of *cuca*, my hunger ceased; but I did not notice my sense of fatigue diminished. At 6 A.M. I was very tired, and I did not notice any special effect produced by chewing the second forty grains of *cuca*. From this time, however, my fatigue did not increase. On descending the hill I felt hungry, and I then ate two ounces of bread. On arriving in Derry, my feeling of fatigue was quite gone, and I had an excellent appetite for my breakfast. Throughout the afternoon and evening I felt no more fatigue than I usually do after a busy forenoon's work in my laboratory.

On neither occasion after chewing the leaf was I conscious of its producing any special effect on me, either in diminishing fatigue or causing increased elasticity of spirits; and I was therefore at the time disappointed in my expectations, and somewhat sceptical as to the restorative properties of *cuca*. It was only when I had completed my walk and compared my sensations with those I certainly would have experienced had I attempted the same exertions without *cuca*, that I began to recognise its power; and when I found myself during the afternoon going about my usual avocations without being conscious of any feeling to remind me that I had spent the morning in an unusual manner, I fully appreciated its value.

The total distance walked was twenty-four miles, ten of which were along a most fatiguing mountain-road. The hill ascended was 1,381 feet high. The total nutriment taken by me before breakfasting at 11 A.M., was three ounces of bread and eighty grains of *cuca*.

The following are the results of three examinations of the urine.

	Quantity.	Sp. gr.	Total solids.
At end of first 2 hours	2,844 grains.	1.028	185.50 gr.
„ second „	1,750 „	1.028	114.20 „
„ third 2½ „	1,750 „	1.0275	110.25 „

The specific gravity and total solids were very high.

SUPPURATION OF THE MIDDLE EAR IN RELATION TO LIFE INSURANCE.

By LLEWELYN THOMAS, M.D.,

Physician to the Royal Academy of Music; Surgeon to the Central Throat and Ear Hospital, London.

AMONG the various, and in some instances vexatiously minute, forms of questions propounded by different Life-offices, for the guidance of their medical examiners, I believe, in very many cases, the question, "Have you ever had a discharge from the ear?" is omitted. Now, it may be considered that this subject would be included in the general question, "Have you had any complaint not already mentioned?" but, from my experience of aural patients, I am confident that very few would volunteer any information on the subject, as many people appear to consider a slight running from the ears as a normal condition; and, even if the fact were admitted, many practitioners treat otorrhœa with such contempt that they would probably pass the matter by with indifference.

I propose, therefore, to demonstrate that the subject is one of great importance in the prognosis of the probabilities of a life being "good", and suggest that, in a doubtful case, the verdict should be held in abeyance until the suspected ear has been carefully examined and tested. I can well imagine the referee objecting to make a tedious examination with the aural speculum and other tests, in addition to his multifarious duties, for the ordinary fee of a guinea, or, in some cases, for as little

as half-a-guinea; yet the subject is of the greatest importance both to the office and to the proposer.

The causes of chronic suppuration of the middle ear are acute and subacute catarrhal inflammation, and acute suppurative inflammation of the tympanum, which may result from small-pox, scarlet fever, measles, diphtheria, pneumonia, ordinary catarrh, mechanical injuries, and gouty, scrofulous, or syphilitic dyscrasia: the results are polypi and exostoses, disease of the mastoid-cells, caries and necrosis, cerebral abscess, pyæmia, phlebitis, and paralysis, or even possibly insanity.

The late Mr. Toynbee, and Dr. Roosa, the talented New York aurist, have published tables, from which it may be seen that death may occur from chronic aural disease at any age and at any period from the commencement of the discharge. Mr. Toynbee cites a case, terminating fatally after the existence of otorrhœa for thirty-five years, and Dr. Roosa one after forty-one years. It is thus evident that chronic suppuration may lie dormant for years, and may then be kindled into a most fatal disease, either by some accidental circumstance, as exposure to cold, an injury to the head, a deteriorated state of health, or by the mechanical results produced by the affection itself.

A careful consideration of the anatomy of the tympanum will at once show what a dangerous locality it is in which to have a chronic suppuration as a constant inhabitant; in fact, I am acquainted with no other region of the body which is in relation with such terribly vital parts. The roof of the tympanum is in contact with the meninges of the brain; the bone is here often thin and porous, or even entirely absent, so that the tympanum actually forms a portion of the cavity of the cranium. The floor of the tympanum is sometimes bony, sometimes membranous, and, lying lower than the floor of the external auditory meatus and the orifices of the mastoid cells and Eustachian tubes, is frequently the seat of purulent accumulations in suppuration of the middle ear, which may result in phlebitis of the jugular vein. The inner wall is the outer boundary of the labyrinth, and is in front of the promontory in contact with the carotid artery; caries, in this situation, may produce hæmorrhage from the carotid, or suppuration extending through the labyrinth into the cavity of the skull. The posterior wall opens into the mastoid cells, which are bounded internally by the lateral sinus—a fact of considerable importance in suppuration of the mastoid, or in attempts to remove polypi springing from this locality. Polypi and exostoses of the tympanum, produced by the irritation of the chronic suppuration, may both prove fatal, either by pressure and caries, or by blocking up the discharge and producing meningitis, the pus in these cases rarely finding its way through the Eustachian tubes, as they are generally rendered impervious by the long-continued inflammatory processes. The mastoid cells are probably always more or less affected in a suppuration of the tympanum; but at any time a more dangerous affection may be lighted up, either acute periostitis or caries, from accumulation of the discharges, both of which frequently prove fatal from extension to the meninges, especially in cases where the gravity of the symptoms has not been early recognised and actively treated. Caries of any portion of the temporal bone may take place, and is always dangerous, as it may result in meningitis, abscess, hæmorrhage, or phlebitis. It is not at all easy to determine the existence of caries in many cases, as the probe cannot be used with anything like the same degree of boldness as in other parts. If, however minute it may be, a suppuration persistently resist treatment, caries of some portion of the bone probably exists: caries even of the external meatus, from the proximity of the dura mater to the upper wall and of the mastoid cells, may produce meningitis. Pyæmia also occurs, probably from the entrance of pus into the circulation through the mastoid veins or lateral sinus.

One of the most interesting facts in connection with the subject of chronic aural disease is its connection with cerebral abscess, for, from the published cases of German and English authors, it appears that from one-third to one-half of the cases of abscess of the cerebrum arise from aural disease. This is readily understood, if we consider the intimate connection of the dura mater with the roof of the tympanum. There is usually meningitis in connection with the site of the abscess; but sometimes the membranes are healthy, and even a portion of healthy brain-substance may intervene between the temporal bone and the abscess. Collections of pus are also not at all uncommon in the cerebellum after chronic disease of the mastoid cells, and here occurs another possible source of error in prognosis; the discharge, when investigated, may appear to come from the meatus only, as the membrane is seen to be intact, yet there may be in such a case caries of some portion of the temporal bone and disease in the mastoid cells, without perforation of the drum head. Such cases are rare, though they are on record. Apparently, no rule can be laid down regarding the danger of necrosis of different portions of the temporal bone; in many cases, a fortunate kind of hyperplasia takes place around the tympanum, and

shuts it off from its perilous neighbours: the ossicula may be discharged, and even the cochlea and labyrinth, without any bad symptoms supervening. I trust I have shown by these remarks the importance of investigating otorrhoea in connection with assurance; and I would suggest that no life should be certified as first-class, or even second-class, in whom examination indicates a suspicion of caries, or the existence or recent occurrence of anything like an inflammatory process. I shall be glad if the subject elicit opinions from members of the profession engaged in life-examinations.

CASE OF ACUTE RHEUMATISM TREATED WITH SALICYLATE OF SODA: RAPID RECOVERY.

By TALFOURD JONES, M.B.LOND.,

University Medical Scholar; Physician to the Breconshire Infirmary.

MR. WILLIAM PRICE, aged 46, innkeeper, got out of his bed on Saturday morning, May 20th, 1876, at five o'clock, in order to drive away a dog that was barking. He went into the street and stood in the cold with nothing on but his night-dress, not even his stockings. On Monday, May 22nd, he felt cold, chilly, and poorly. On the 23rd, he could not get out of bed, because of pain and swelling in his ankles, insteps, and wrists. On May 24th, I visited him for the first time, and found him in bed, on his back, in much pain; pulse 92; temperature 101.2 deg. Fahr. The tongue was furred; the skin only slightly moist. He had thirst and anorexia. The ankles, insteps, wrists, and parts of the hands were very red, swollen, tender, hot, and painful. The patient was unable to move them. He had no sleep the previous night because of severe pain. The bowels were opened after medicine. The urine was high-coloured, scanty, with much lithates. He had slight cough. There was no cardiac murmur. He was ordered to have the inflamed joints packed in wadding, and to take thirty grains of salicylate of soda, dissolved in an ounce and a half of water, every three hours. At 10 P.M., he had taken four doses. Pulse 80; temperature 100 deg. Fahr. The skin was much moister. The patient said he felt very much better. He had no pain in the ankles or in the left hand, and only a slight pain in the right wrist and hand. He could now use the left hand freely. The bowels had acted once since the morning visit. He complained of soreness and heaviness of the eyelids, and of a slight frontal headache, which had come on since he began the medicine; and he seemed to be somewhat deaf. He was ordered to take a dose of salicylate of soda at 12 P.M., and another at 6 A.M. to-morrow, and afterwards every three hours.

May 25th, 11 A.M. Pulse 78; temperature 99.8 deg. Fahr. The skin was moister, and the tongue cleaner. He had had a comfortable night. The pain in the right hand left him in the night, and since then he had been absolutely free from pain. There were now no local signs about the joints, save a little swelling of the left instep. There was a little soreness about the eyelids. The patient said that he had received great benefit from the medicine, and that it caused no soreness about the throat, nor did it give rise to any unpleasant sensations in the mouth or throat either during or after the act of swallowing. He had now taken since noon yesterday—*i.e.*, in twenty-three hours—seven doses of the salt. After the eighth dose, he was ordered to take twenty grains every three hours, in an ounce of water.—9.20 P.M. Pulse 78; temperature 99 deg. Fahr. The skin was moist, and the tongue cleaner. He had continued free from pain. He had had one natural stool. The urine was turbid, with lithates. He had taken three of the twenty-grain doses: he was ordered to take the rest at twelve noon, and none afterwards, until 9 A.M. to-morrow. There was no soreness about the eyelids; no headache. There was slight deafness. The patient had taken light food in good quantity to-day, and he now suggested that he might be allowed to get up to-morrow.

May 26th, 12.15 P.M. Pulse 70; temperature 98 deg. Fahr. The skin was moist; the tongue still cleaner. He was somewhat restless during the early part of the night, but very sleepy all the morning. The deafness had left him; the fever was gone; there was neither pain nor any local signs about the joints; only a little stiffness about the ankles. He could use his hands freely, and could kick his legs about. The medicine was ordered to be continued, but in less frequent doses; the next dose to be given at 6 P.M. After this he continued to improve. On the 27th, he ate roast beef for his dinner; and on the next day walked down stairs.

REMARKS.—In the first twenty-four hours of treatment—*i.e.*, from noon on May 24th till noon on the 25th—he took eight doses of thirty grains, in all two hundred and forty grains. In the succeeding period of twenty-four hours, he had six doses of twenty grains—total, one hundred and twenty grains. In the third period, he had three doses of

twenty grains—total, sixty grains. During the fourth period, he had two doses of twenty grains—total, forty grains. Altogether, in four days he had four hundred and sixty grains. On the second day of treatment, after taking the seventh dose, the patient was absolutely free from pain; nor was there any tenderness about the joints, even under rough handling. The temperature fell within twenty-four hours from 101.2 to 99.8 deg.; in the next period to 98 deg.; and on the third day to 97.4 deg. The pulse fell at the end of the first twenty-four hours from 92 to 80, thence to 70 on the third day. The patient was getting worse when he was first seen by me; and although the pyrexia was not very marked then, I am sure it would have been more pronounced that night had it not been for the medicine, the pyretic effects of which were soon manifested. Twenty years ago, the patient had an attack of rheumatic fever, which confined him to his bed for thirteen weeks. In November 1870, I attended him for an attack which lasted sixteen days. He was then treated with bicarbonate and nitrate of potash and opium, with chloral and morphia at bed-time. In this last attack, I gave salicylate of soda in preference to salicylic acid, because the latter has been said to cause more or less soreness of the throat. The soda-salt dissolves instantly in water, and twenty grains in an ounce make quite a pleasant draught. The salt was procured from Messrs. Battley and Watts.

About a month ago, Dr. Clouston of Hay told me of two cases of rheumatic fever which he had most successfully treated with salicine.

THERAPEUTIC MEMORANDA.

ENDOCARDITIS TREATED BY SALICINE.

WHEN in the neighbourhood of his residence, on May 14th, I was called to visit J. H., aged 45. He stated that he had been ill two or three days, after exposure to the east wind, with general pain in the joints, cough, and uneasiness in the chest. He now complained of a sense of weight and oppression all over the chest. He had cough, with some viscid expectoration. The skin was hot, bedewed with perspiration; pulse 124; urine scanty, high coloured, with intense acid reaction. On the 15th, the symptoms were aggravated. He had pain under the sternum, going through to the left shoulder, with occasional palpitation, general pain in the joints, but no articular swelling visible. He had been entirely unable to lie down during the night. Perspiration was profuse, the countenance expressive of anxiety. Cough was frequent; pulse 124; temperature 102 deg. There was no abnormal cardiac dulness or friction-sound. A strong blowing murmur was heard with the first sound, heard most distinctly at the apex; the second sound was undistinguishable. There were moist bronchial *râles*, especially on the right side of the chest. Salicine in scruple-doses was given every four hours, in a mixture of glycerine and water. On the 16th, he said he felt better, and that he found relief from the first dose of the medicine. The anxiety of countenance was less apparent. He had been able to sleep a little, with his head and shoulders much elevated. The endocardial murmur was less pronounced; pulse 106; temperature 100 deg. The perspiration was less; the cough was still troublesome; the bowels were regular. He was ordered to continue the salicine. On the 17th, he had been able to lie down a short time, and had obtained a little sleep. The dyspnoea was much less; pulse 90, regular, and compressible; no palpitation; temperature 99 deg. There was a blowing murmur with the first sound, distinct over the apex, but not so harsh; it was gradually lost towards the base. Salicine was given every six hours. On the 19th, he was in every respect better. From this date his improvement was progressive and uninterrupted; and on the 24th he was able to walk a few steps in his garden.

This patient had a severe attack of acute rheumatism about four years ago, since which he had been subject to occasional rheumatic pains, but insufficient to interfere with his occupation. The salicine gave rise to no irritation of the mucous lining of the throat, which is frequently the result of the administration of salicylic acid.

GEORGE PARKER MAY, M.D., Maldon.

ERYTHROXYLON COCA.

I HAVE read with much interest the extremely interesting articles in regard to this drug which have appeared, from time to time, in the BRITISH MEDICAL JOURNAL; and, having devoted some time to the investigation of its properties, I think the readers of the JOURNAL might be interested in knowing the result of my labours.

In the fall of 1874, I received a pound of the dried leaves, the odour of which resembled somewhat that of tea. I gave them to Messrs. Hazard, Caswell, and Co., chemists, of New York, who presented me