

doubt that all cases of chronic purulent discharge from the ear should be treated by the complete operation, though I am quite aware that in some cases the disease has been rendered latent by removal of ossicles alone or even by prolonged systematic dressing through the meatus. No one potters with a chronic empyema because some few acute cases recover with a single aspiration. It must be either war or peace. The lethal complications that we meet with are not seldom the outcome of the stammering mind of Mr. Ready-to-halt. The armed neutrality which promises operation if the need arises was, and is, the orthodox plan and has much to say for itself; but as Carlyle remarks, "The two internecine plans collapsing into one, that is the clearly fatal method." The great majority, if not all, of the chronic cases have commenced as an acute disease and it is an important practical question, how long may they be regarded as remaining so? That is after what interval should the complete operation and not the so-called operation for acute disease be performed. Many cases in which the operation for acute disease has been performed subsequently require the complete operation and I am now of opinion that in any case requiring operation after six weeks of discharge the surer treatment is the complete operation. The operation for acute disease is an incomplete procedure and therefore uncertain in its results; the bridge is not divided, the abscess is incised only at its two extremities, the narrow neck of the antrum provides only imperfect drainage, and is very liable to become blocked by granulations. In cases of ingravescant appendicitis no surgeon would dare to call himself a late operator, but no one who has attended meetings at which the treatment of temporal bone disease has been debated can fail to be struck with the fact that the orators seem to plume themselves on avoiding operation. Is this a logical position to take up in treating a disease which is also ingravescant and which has perhaps a history of 20 years' standing, which may be tuberculous, and which in any case is liable to infect other parts of the body? The best results both to the hearing and to the health of the patient in suppurative temporal bone disease are obtained by early and complete operation. No surgeon would leave a sinus leading to diseased bone in the tibia for 20 years, or even for one, however cleverly he might be able to irrigate it or tickle it with antiseptic powders and cotton-wool. In mastoid disease, as in Bunyan's allegory, the Messrs. "Hopeful," who are persuaded to stray along the easiest going of By-path Meadow, will not escape the crab-tree cudgel in the dungeons of Giant Despair.

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## A CASE OF MITRAL INCOMPETENCY AND ASCITES TREATED WITH APOCYNUM CANNABINUM.

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It may be to some advantage, I think, to give a brief note on the treatment of valvular heart disease, especially when such complications as an enlarged liver and ascites arise, with apocynum cannabinum. After having read both the annotation in THE LANCET of Sept. 3rd, 1904 (p. 734) and Dr. T. J. Walker's letter two weeks later,<sup>1</sup> and having then a suitable case in the Vieux Fort District Hospital, St. Lucia, I at once determined to use the drug. I had but recently received a supply of medicines, among which I noticed the tincture of apocynum cannabinum, generously supplied by Dr. Stanley Branch, the officer in charge of the Castries Government drug store. The patient was then in a very bad condition and really was hopeless, the only temporary relief being paracentesis which I performed regularly every month or six weeks, so rapidly did the fluid accumulate in the abdominal cavity. He was a black man, about 49 years of age, and he was admitted to the Vieux Fort District Hospital on March 14th, 1904, suffering from heart disease and ascites. On admission he was found to be in a most distressing condition of dyspnoea and other uncomfortable symptoms of pressure from an enormously distended abdomen. He was at once tapped and a little over 20

pints of ascitic fluid were withdrawn. After a couple of ounces of brandy and a little rest he was then able to give some account of himself. I found that he had freshly arrived in St. Lucia from Cayenne, where he had been ill for several months. He said that the medical man in Cayenne had tapped him 30 times and true enough his lower abdomen was indurated with the number of cicatrices from the punctures. The cardiac dulness extended from the upper margin of the third rib to the sixth interspace and laterally from the right edge of the sternum to two fingers' breadth outside the left nipple. The cardiac beat was seen and felt in the fifth and sixth spaces and there was a wavy thrill to be felt at the apex synchronous with the systolic rhythm. On auscultation there was at the apex a systolic murmur increasing in intensity from without inwards and heard all over the cardiac area. At the base the second sound at the pulmonary cartilage was sharply accentuated. His pulse was irregular in force and volume. His liver was enlarged, reaching to two fingers' breadth below the margins of the rib, and its dulness extended over nearly the whole of the epigastric region. It was smooth to the feel and exhibited no tenderness. After paracentesis the abdominal wall was so lax that the liver could be grasped between the fingers and thumb, so that its enlarged size could be well appreciated. The spleen was not appreciably enlarged. His urine was scanty, acid, and contained no albumin but deposited on standing a thick sediment of phosphates. His skin was wrinkled and dry, exhibiting a fine scaly desquamation such as one sees in the convalescent stage of measles. The appetite was bad; he remained on a low diet from the day of his admission until Sept. 23rd, when it was changed to a middle one. His bowels were kept open by purgatives. He remained in this hopeless condition, taking for medicine digitalis and iron without any change whatever, until I saw the letter of Dr. Walker, when I commenced to add to his prescription one minim of the tincture of apocynum cannabinum. This was on Oct. 12th. I am not quite sure as to where the tincture came from but it was supplied to me by Dr. Branch of his own free will, as I had not requisitioned for it. The patient was tapped on Oct. 5th, when I drew from him three gallons of ascitic fluid and it was not found necessary to tap him again until his readmission in May of the following year. From Oct. 12th the drug was increased at each repetition by one minim to the ounce until the 27th when it was increased by two minims. On the 31st he was taking ten minims of the drug three times daily, which I found exceeded the maximum dose by his developing symptoms of irritation. The urine voided in the 24 hours was carefully noted from the 14th and it will be seen that from a very small quantity of concentrated urine, barely half a pint, the daily excretion rose to several pints during the 24 hours. Thus on Oct. 14th he passed 10 ounces; on the 15th, 12 ounces; on the 16th, 16 ounces; on the 17th, three pints; on the 18th, three and a half pints; on the 19th, three and a half pints; on the 20th, five pints; on the 22nd, five pints; on the 23rd, five pints; on the 25th, six pints; on the 26th, six pints; on the 27th and 28th, six pints; and on the 29th and 30th, seven pints. On Nov. 1st, the morning after he had commenced to take ten minims thrice daily, the amount of urine decreased to two pints and was highly albuminous and showed tube casts. He lost his appetite, complained of nausea and headache, and from a feeling of cheerfulness he again collapsed into a despondent state. There was violent epigastric pulsation. Between the 6th and the 9th he only passed one pint of urine. Fortunately I at once recognised these ill symptoms to be due to an overdose of apocynum cannabinum and reduced the dose to six minims. After a few days he regained his appetite and former cheerfulness and the quantity of urine rose on the 10th to two pints and subsequently on the 18th to three and a half pints. He was discharged at his own request in the latter part of February, 1905, though not cured of his heart disease yet feeling much better than he ever expected. He carried a bottle of medicine with him which, unfortunately, he never thought of repeating, consequently he was readmitted early in May with an enormously distended abdomen from which I removed a large quantity of fluid just before I left St. Lucia. Thus it will be seen that whereas tapping was urgently needed every month or six weeks he was able to improve so much on apocynum cannabinum as not to require the operation for nearly six months.

There are one or two points which require special mention

<sup>1</sup> THE LANCET, Sept. 17th, 1904, p. 859.

observable during the administration of apocynum cannabinum. In the first place, it must be carefully remembered that its physiological action on the kidneys is a very powerful one, as may be observed was the case above when the medicinal dose was exceeded. The urine at once showed evidence of acute congestion of the kidneys and there was a marked diminution in the quantity of urine voided which at the same time became highly albuminous. Had the dose—viz., ten minims three times daily—been persisted in there might have even occurred complete suppression. That the drug is actively excreted by the skin is, I think, evident from the remarkable result which it had on the above case. There was a general cutaneous hyperæmia not visible on a black skin but the itching and desquamation seemed to have pointed that way. After the man had been taking the drug for some weeks the desquamation ceased and the skin assumed a moist and more natural gloss. The itching had disappeared and as this latter was a source of irritation and sleeplessness at night, which I tried in vain to combat with warm baths, he from being restless and irritable was able to enjoy his night's rest. I attribute this happy state to the apocynum cannabinum, which I hope will meet with equal success in other hands.

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## THE INFLUENCE OF NASAL OBSTRUCTION ON THE FORM OF THE FACE.

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THERE appears to be much difference in opinion as to the relation in cause and effect between a highly arched narrow palate and nasal obstruction when these conditions are found associated. While some would account adenoids responsible for all the variations from normal which the jaw may exhibit, others would regard these variations as etiological factors in the production of adenoids. Some of the former explain the method of production in one way, some in another. There are also believers in heredity and racial character as of primary importance in the production of the highly arched and V-shaped palate. They look upon any nasal stenosis that may exist as complementary to the form of palate present and deny its influence as a causative agent altogether.

It is well known that obstruction to nasal respiration leads to the development of a characteristic facial form and expression which has come to be called the "adenoids facies" and is described thus: "The face is long, the point of the nose pinched, the lower jaw hangs down, the mouth is open, there is often lateral narrowing of the alveolar arch, high palate, and prominence of the upper incisor teeth which tend to approach one another posteriorly, the upper lip projects away from the teeth, the inner canthus of the eyes is drawn downwards, the eyebrows raised, while the obliteration of the natural folds of the face gives to the patient a stupid, vacant, semi-idiotic expression." In addition there are often seen depression and widening of the bridge of the nose which is frequently crossed by a prominent vein.

In the relation of adenoids to the adenoid facies De Champeaux recognises three divisions—namely, the facies without the presence of adenoids, adenoids without the facies, and the co-existence of adenoids with the facies. In the first the mouth is open, the palatal arch is pointed, and the teeth are badly arranged. The patient snores at night, the tonsils are not enlarged, and respiration is buccal and cannot be carried out through the nose. The case presenting these characteristics is obviously one of nasal obstruction other than that due to adenoids in the naso-pharynx. The omission here of all facial deformity except that affecting the anterior portion of the maxillary bones is very noticeable. A careful perusal of the description of the adenoid facies will enable the reader to divide the deformity into that of the maxillary bones, that of the mandible, and that of the bridge of the nose, the remaining signs being consequences of the bone

alteration. Obstruction to nasal respiration is almost universally agreed to be the cause of the deformity but it is not generally recognised that so much of it as affects the maxilla is due to anterior nasal obstruction, that the lower jaw is not really, but only apparently, affected by nasal stenosis, and that the deformity at the bridge of the nose alone is consequent upon posterior nasal obstruction.

Mayo Collier has established beyond doubt the following facts and in the application of the principle has found the cause of deflections of the nasal septum. "If one nostril is blocked up, from whatever cause, the air in that nostril is rarefied by the inspiratory act ..... and the walls of that box are subjected to a pressure exactly in proportion to the amount of rarefaction" and "no *plus* pressure exists during expiration" to modify or to obliterate the effects produced by the occurrence of negative pressure during inspiration. He computes the difference of pressure to amount usually to between two and three pounds on each square inch.

Grossheintz believes that the existence of a highly arched and V-shaped palate depends upon the type of skull, whether dolichocephalic or not. He finds that with a high narrow alveolar arch is usually associated a general narrowing of the upper face and that narrow nasal passages and narrow orbits belong to the same type of skull formation, and he concludes that a high narrow alveolar arch depends upon the congenital racial characteristics of the skull and not upon the later extra-uterine influence of nasal stenosis. The constant association of the long narrow skull formation with the high narrow palate suggests that both may be due to the influence of the same cause—namely, a proportionate degree of anterior nasal stenosis, for it is to be remembered that the nasal fossæ are in internal atmospheric communication with the maxillary, frontal, ethmoid, petrosal, and mastoid sinuses. As a consequence of this the air pressure at any moment existing in the nasal fossæ is the equivalent of that existing in the sinuses already mentioned, provided that no obstruction to their intercommunication is present.

Given a bilateral anterior nasal obstruction, complete or of partial degree, buccal respiration being unimpeded, with negative pressure in the nasal fossæ behind the obstruction as would occur at each inspiration, negative pressure is present to the same degree in all those fossæ of the skull connected with the nose and pharynx up to the position of the floor of the nasal fossæ—i.e., above the soft palate. The long-continued effect of the consequential external atmospheric pressure upon young and soft bones would be to deform them in a definite direction—namely, in the direction of a narrowing of the face and upper jaw and dolichocephaly. It is therefore not surprising that a high narrow palate is found associated with a dolichocephalic skull. To those who suggest that this configuration of the jaw is dependent upon the presence of post-nasal lymphoid hypertrophy it is sufficient to adduce the negative evidence of Fraenkel's careful measurements. He came to the conclusion that it occurs no more frequently in those who have adenoids than in those who have not had them.

A large number of writers hold the view that adenoids, when causing a posterior obstruction prohibiting the nasal chambers from carrying out their proper function, prevent the perfect progress of the process of development in the jaw. While some attribute this to the abeyance of natural function and the want of proper blood-supply, others attribute it to the absence of the mechanical factor upon which the naso-pharynx is dependent for its growth—namely, the pressure of air upon its walls. The assumption is that the process of development is hindered. Were this so the part should exhibit a deficiency in growth. In the vast majority of cases there is, however, no *deficiency* of growth. It is rather a deformity—growth in the abnormal direction. The suggestion that there normally exists a positive pressure upon the walls of the naso-pharynx from inside is not supported by reference to any physical law and it is difficult to imagine how this could be so, seeing that the whole force of air in motion is expended in the direction in which it is moving—namely, towards the potential vacuum in the lungs, not at right angles to this upon the lateral walls or floor of the nasal fossæ. This, indeed, might occur to some extent if the posterior orifice of the nasal chamber were smaller than the anterior or if the act of inspiration were accomplished by propulsion of air, but we know that the reverse is the case.

Without entering into a lengthy discussion of the various opinions which have been held from time to time it will suffice to say that variation in intranasal air pressure is