

following manner. The male infant is well-known to be larger than the female at full term; so that, on the average, the male is ten ounces heavier than the female, while the length is half-an-inch greater. This, perhaps, would not be of so great importance had not the cranium of the male been more completely ossified than that of the female; so that this, coupled with an increase of circumference, on an average half-an-inch, renders its delivery through a narrow pelvis more difficult than the female's, because of its being less capable of being moulded to a shape easy for passing. In consequence of this, the birth of a male child is more difficult and dangerous to the mother. Sir James Simpson considered the difference in the sexes of great importance; for he calculated that, between the years 1834 and 1837, in Great Britain, from 46 to 47 per 1,000 male infants lost their lives at birth, owing to the excess of size; and three to four thousand mothers also, from the same cause. This may be overrated, because the calculations were made from the statistics of lying-in hospitals, where a considerable number of difficult cases were admitted in labour for operation; and thus the foetal death-rate would be increased above the general average. Still, doubtless, after labour, although the child may be born alive, the effects of the difficulty are felt for some time, and many deaths take place in consequence, in a diminishing ratio, for one, two, or even three or four years.

Dr. Langdon Down has recently, in a paper read before the Obstetrical Society, shown that, according to his notes, there is a marked preponderance in the number of male over female idiots, in the proportion of 2.1 to .9; or rather more than twice as many. He has also noticed that infantile convulsions have occurred among males who have become idiots much more frequently than among females. Dr. Langdon Down attributes these calamities to the increased length and difficulty at the birth of the male by reason of its enlarged cranium, whereby pressure on the circulation produces a kind of asphyxia. He found that first-born children were more frequently afflicted than others; and, as prolonged and difficult labour generally attended the birth of a first child, he considered it probably the result of the pressure.

Exceedingly interesting tables are given by Dr. Collins, of the Rotunda Lying-in Hospital, Dublin, as to the relative death-rate of the sexes shortly after delivery. I will not detain you on this point, but I cannot refrain from quoting the first three lines, which show that, within half-an-hour after birth, 16 males died against 1 female; within the first hour, 19 males died against 2 females; within the first six hours, 29 males died against 7 females. There can be no doubt, therefore, that the male runs a greater risk in its nativity than the female; and this risk is caused by the more protracted and laborious labour which its larger and harder head necessitates. The more firm ossification of the male head, though doubtless a protection to the brain, is more obstructive to delivery than that of the female; and this tells upon the male, more especially in cases where the mother's pelvis is somewhat reduced in size, either generally or partially.

From these considerations, therefore, it would appear that the death of the male in birth and shortly afterwards is not so much the result of direct pressure on the brain, but rather the ill result is owing to obstruction to the circulation in the uterus, placenta, and funis, causing effusion of blood in various organs, and provoking inspiratory movements, which cause an invasion of the larynx and bronchi by the fluids in the passages; in other words, chronic or sudden asphyxia. This being the case, a further deduction is capable of being made; namely, that the longer the labour, if the pains are forcible, the greater the risk to the child, *ceteris paribus*; and, indeed, the truth of this inference is clearly supported by examination of the facts, which need not here be detailed, as they can be found in all modern works on obstetrics. The full recognition of this leads one at once to make a practical rule, viz., that, if the head of the child in labour be detained in the parturient canal after this is fairly opened and the uterus in full action, then the abstraction of the child by art is the more likely to save its life, the earlier assistance is given; and not only to save its life at the time, but to save it from the evils which continue their force after birth. No doubt it is difficult precisely to lay down rules as to the time when assistance should be given; this is not the place to discuss this question; opinions vary, but all modern practitioners, I think, accept the rule given above as a guide in practice, which, indeed, has redeemed modern obstetrics from the old opprobrium of "meddlesome midwifery".

For the increased risks to the mother by exhaustion, internal bruising, by inertia of the uterus tending to floodings, and septicæmia after labour, I must refer you to the treatise of Sir James Simpson quoted above, entitled "Sex of Child as a Cause of Difficulty and Danger in Human Parturition", in his *Selected Obstetric Works*, 1871.

The influence which the additional difficulty and length of labour produce on the child, and for how long it was felt by it, it is impossible to gauge exactly, because we cannot deny that the male brain

from earliest age is more prone to active disease than the female. The human male, from earliest history, has had to employ its mental faculties to a much greater degree than the female; and hence, doubtless, that tendency (so well pointed out by Darwin) for each sex to transmit its acquired peculiarities has had an influence in this matter; and this activity, we shall admit, tends to disease and disturbance in a higher degree than if a less activity were present.

Before leaving this subject, I mean the effects of pressure at birth, I must recall to your recollection a paper by Dr. Little, in which he has discussed how far the asphyxia consequent on difficult labour had to do with the production of mental impairment, hemiplegia, and spastic rigidity observed in children in their early years. Of course, at so late a period of life, with so many causes of disturbance existing, notably dentition and imperfect nutrition, it would be difficult to say how far Dr. Little's opinion is correct, wholly or in part.

But there is one more circumstance which cannot be overlooked when we seek for explanation why the severer affections of the brain are more frequent and dangerous in the male child than in the female, and this particularly up to nearly the end of the second year. I have mentioned already that at birth the skull of the male head is in a more advanced state of ossification than the female. This is so noticeable that, before the child is born, one is able to pronounce rightly in eight or even nine out of ten cases whether it be male or female.

The protection the more solid skull offers to the male brain during birth exempts this latter from the disturbance and sometimes injury to which the brain of the female is exposed in consequence of the mobility of the skull; though, as before shown, it may increase its risks by asphyxia.

These observations tend rather to oppose the opinion of some, who put against the forceps-pressure all those evils which afflict the brain of the child; whereas it is generally in the more ossified skull, and therefore less yielding, that we employ them, consequently more in males than in females.

But, when irritation and hyperæmia of the encephalon occur after birth, as specially during dentition, this solidity tends to increase the effects of pressure from within as compared with the more yielding and mobile skull of the female; for probably all have noticed that where the sutures and fontanelles are late in closing, the effects of dentition are not so severe, whether in male or female. At the same time, we must not forget that to which I have just now alluded; the easily moulded skull of the female gives some risk to its owner, in that the brain is subjected to greater pressure, and sometimes severe disturbance to its shape; while, the sutures being more capable of overlapping, the edges are apt to penetrate the longitudinal sinus, and thus cause effusion of blood, or internal cephalhæmatoma, as I have occasionally noticed.

[To be continued.]

A CASE OF EXOPHTHALMIC GOÏTRE, WITH NEW PHENOMENA.*

By I. BURNEY YEO, M.D., F.R.C.P.,

Physician to King's College Hospital; Assistant-Physician to the Brompton Hospital for Diseases of the Chest; etc.

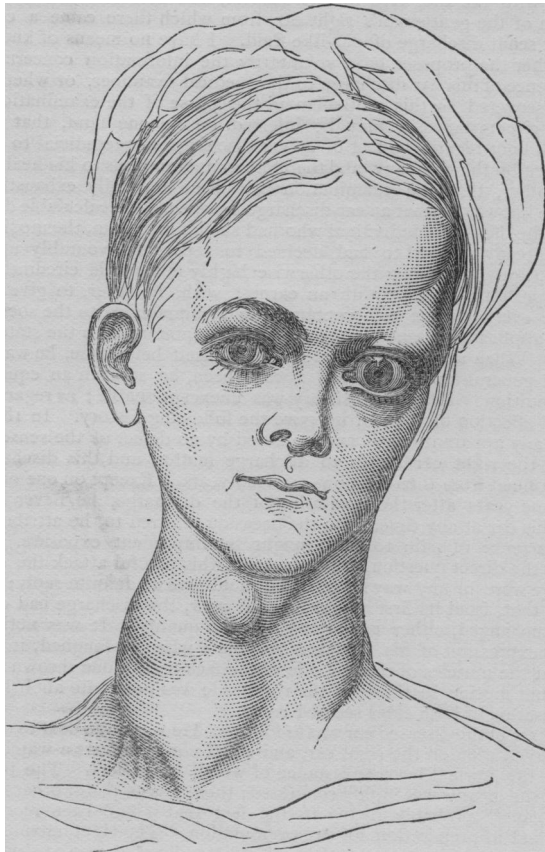
CASES of exophthalmic goitre, although always of great interest, both on account of the remarkable phenomena which attend them and the obscurity which still rests on their pathology, are not so seldom seen as to merit any extraordinary attention from a Society like this. Nor should I have solicited the attention of the members of the Clinical Society to the case I am about to show them, were it not that, besides the ordinary phenomena commonly noticed in cases of a like kind, certain others have been developed in the course of this one, which, I believe, have not hitherto been observed, or, at any rate, placed on record. And I take it to be the duty of every clinical observer, whenever he meets with unrecorded phenomena, in cases the precise pathology of which still remains doubtful, to take the earliest opportunity of bringing them to the notice of such a Society as this, where they can be examined and discussed, and their precise relation to the pathological state which has given rise to them, can be either suggested or determined.

The patient in question, who is thirty-five years of age, married, and with four children, first came under my observation on the 6th of May last, when she complained chiefly of palpitation and pain in the left side; she had had a cough for six weeks, and suffered also from shortness of breath; she was losing flesh, had no appetite, vomited frequently, and had a tendency to diarrhoea after every meal, or if she

* Read before the Clinical Society of London, March 9th, 1877.

made any exertion. She frequently got very flushed and hot and perspired profusely. The palpitations had troubled her for about three months, but some prominence of the eyeballs had been noticed more than eighteen months previously. I shall call attention hereafter to this order in the evolution of the symptoms, the exophthalmos preceding the palpitation by some considerable time. She had not noticed any swelling in the neck until I called her attention to its existence. She states that she has always been of a highly "nervous" temperament, but that she had enjoyed good health up to the period of her last confinement, in May 1874. She was then given "ergot" every ten minutes for four doses, and her labour only lasted one hour and a half, instead of fourteen hours as with her three previous children. Soon after her confinement, she had an attack of fever; she does not know exactly what kind of fever, but it was attended with sickness, purging, and delirium. It lasted three weeks. On getting up from this illness, she says her friends would not let her look at herself in the glass, "she looked so wild". Hence, I think, we may fairly conclude that the exophthalmos was apparent at that time. She comes of a healthy family; her father and mother are both living, but the latter is "rather nervous".

When I first saw her, I found her heart beating 136 times in a minute; there was considerable enlargement of the right lobe of the thyroid, but very little increase in size of the left lobe; there was and is still an entirely distinct small round body, just over the upper part of the larynx, about the size of a hazel-nut. There was marked exophthalmos of the *left* eye, but it was difficult to say whether the right eye was or was not, at that time, more prominent than natural. Both the enlargement of the thyroid and the exophthalmos presented a decidedly unilateral character; the goitre being on the *right* side, the exophthalmos on the *left*. No bellows-murmur was at this time audible



over the heart or large vessels, nor over the thyroid body; nor any impulse over this body save that communicated from the carotids. She was looking thin, pale, and worn, and had a nervous hasty manner. Her skin was hot and perspiring, and on the slightest pressure became covered with red patches. Her temperature was 100.4 deg. The catamenia had been regular for the last eighteen months. The tongue

was clean. Urine occasionally very abundant, pale, and of low specific gravity; no sugar or albumen. She was ordered a mixture of digitalis and belladonna, which she took three times a day for a week without any effect on the palpitations; the temperature was, however, reduced to 99.4 deg. She continued to take this medicine for four weeks without any influence on the palpitations. She was then ordered small doses of strychnia twice a day and bromide of potassium at night, and with this treatment the pulse dropped to 120. At this time (June 7th), she called my attention to a new and singular phenomenon, which she had hitherto, by a very rudimentary form of art, contrived to conceal. As the left eye had become prominent, the hairs of the eyebrow, all the eyelashes of the lower lid, and the inner two-thirds of those of the upper-lid, had slowly disappeared. She was also conscious of some irritation about the left eyebrow and eyelid, but there was never the slightest appearance of any eruption on the skin there.

Towards the end of July, she complained so much of the profuse perspirations, that I again gave her belladonna; and, as she had taken quarter-grain doses before without much effect, I gave her half a grain of the extract three times a day. She could not, however, take this dose, as it gave rise to toxic effects: swelling and dryness of the throat, giddiness, and the appearance of large red patches on the skin. It also aggravated the diarrhoea, which had long been, at times, a troublesome symptom. In order to keep this symptom under control, she had to take bismuth, with an occasional opium pill, for nearly two months.

I did not see her from August 2nd to October 18th. She had then just returned from a fortnight's stay at Ramsgate, which had been most beneficial to her. The tendency to diarrhoea had ceased, and she had been getting stouter. Her left eye was, however, still very prominent, and the right lobe of the thyroid was large and quite hard, and, on listening over it, tracheal breathing was conducted very loudly to the ear. Notwithstanding what has been said by some writers against the use of iodide of potassium in this disease, I thought it desirable, as the thyroid enlargement was very hard and appeared to be exercising some slight pressure on the trachea, to give the iodide internally, three grains three times a day, and to order the iodide of potassium liniment to be rubbed in over the thyroid swelling. The iodide certainly had a good effect for a time; the pulse fell during its use from 132 to 112, and the general health seemed better and the thyroid enlargement lessened.

During the very cold weather in the beginning of last November, the diarrhoea returned, and the other symptoms of the disease became aggravated. The pulse rose to 132 (temperature 99 deg.), and a faint systolic bellows-sound became audible at the cardiac base and along the carotids. She again took digitalis, but without any effect. The pulse remained about 132; the bowels acted five or six times a day, and the systolic murmur at the base became louder and more distinct, and was now (December 11th) heard all over the cardiac area. At this date, I noticed that the *right* eye had recently been getting more prominent, *simultaneously* with some enlargement of the *left* lobe of the thyroid. She had been altogether feeling worse, and the left eye had become more prominent, and there was much systolic impulse over the enlarged gland. In January, the patient called my attention to the circumstance that, since the right eye had begun to get prominent, the *hairs of the eyebrow and the eyelashes on the right side* had been disappearing, with the same feeling of irritation as had been before noticed on the left side.

From the beginning of January to the present time, I may summarise her history by the brief statement that she has been getting worse. Both eyes are now prominent, but the *left* eye is much more so than the right. There is a loud systolic murmur heard over the whole præcordium, loudest about mid-sternum. There is also a loud systolic murmur over both carotids, and this same murmur is heard over the enlarged thyroid, through which the pulsations of the carotids can be felt; but there does not appear to be any pulsation in the thyroid itself distinct from that of the carotids. Both lobes of the thyroid are enlarged; the right, however, much more so than the left. The diarrhoea continues to return from time to time, without any obvious cause, and is kept somewhat under control by pills of sulphate of copper and opium. She is easily fatigued on the least exertion; gets quickly flushed, and perspires freely. The catamenia have ceased for three months. She also complains now of a troublesome cough, with occasionally blood-stained expectorations. The pulse, during the last three months, has ranged between 112 and 130.

Mr. Soelberg Wells has been good enough to make an examination of this patient's eyes for me with the ophthalmoscope. He reports that "the fundus of the eye is quite healthy and there is no spontaneous arterial pulsation". He calls attention to the fact that "the exophthalmos in the left eye is accompanied by a very interesting symp-

tom (usual in such cases), namely, a drawing up of the upper eyelid, so that a portion of the sclerotic above the cornea is exposed. This retraction is due to irritation of the unstriated muscular fibres of Müller, which are found in the upper eyelid, and are supplied by the sympathetic. Her sight is good, though her eyes are readily fatigued in reading, etc., owing to her being considerably hypermetropic.

Before I proceed to make any comments on this interesting case, I wish to call your attention to another case of the same disease also present here this evening. In some respects it is a great contrast to the other one. This patient is a young single woman, twenty-three years of age, robust and strong-looking. She shows no signs of the pronounced cachexia so evident in the other patient. But she is especially interesting now, as being also the subject of unilateral exophthalmos. In her case, the right eye only is prominent. There is very little, if any, enlargement of the thyroid, but there is constant palpitation. The pulse has varied during the time she has been under observation from 116 to 140. She comes of a healthy family, and has always had good health till lately. She first noticed the prominence of the right eye about a year ago. All this time she has been feeling nervous and excitable. She came to King's College Hospital about nine months ago, complaining of pains in the back of the head, and palpitation. She stated also that she suffered frequently from "bilious attacks", attacks of vomiting which would last a whole day, after which her throat would get very large. She complained also of frequent profuse perspirations, coming on twice and three times a day, sometimes without any cause, and sometimes on the slightest exertion. The hands and feet are always perspiring, and her hair is sometimes "wringing wet". She is easily fatigued, has lost her appetite, and is much thinner than she used to be. She suffers much from dysmenorrhœa, and all her symptoms are worse at her periods. She says her throat was much more enlarged nine months ago than it is now.

Having thus briefly called attention to the history of these two cases, I will now point out what I think are the facts which especially merit consideration.

1. *The order of evolution of the phenomena.* It has usually been assumed that the cardiac excitement precedes the enlargement of the thyroid and the exophthalmos, and many seem to look upon the two latter symptoms as in some degree consequences of the former. I doubt if this be true. Trousseau also seemed to doubt this, and he called attention to cases where all the characteristic phenomena appeared suddenly and simultaneously; and he justly remarks, "palpitation first attracts attention because the least disturbance of the heart's action cannot escape notice". In the first of my cases, it seems certain that the exophthalmos preceded the cardiac excitement by a considerable period. I should suggest that there is no other relation between these phenomena than that of the effects of a common cause.

2. *The occurrence of unilateral exophthalmos as well as unilateral enlargement of the thyroid.* It has been stated by most writers on this subject that the exophthalmos has been always bilateral and equal; but I have shown the Society two cases in which this is not the case, and if I had thought it necessary I could have shown a third.

3. *I would call special attention to the remarkable phenomena in my first case of the falling out of the hairs of the eyebrow and eyelids coincidently with the protrusion of the eyeballs, and to what is perhaps of more consequence still, the peculiar crossed manner in which the phenomena were developed: first, the projection of the left eye and enlargement of the right lobe of the thyroid, with the shedding of the hairs of the left eyebrow and eyelashes, and then the slighter enlargement of the left lobe of the thyroid with the slighter but simultaneous projection of the right eyeball and shedding of the hairs of the right eyebrow and eyelids.*

4. *I would suggest that, in considering the pathology of this disease, we have thought too exclusively of the striking local phenomena, and neglected somewhat the consideration of what, perhaps, I may be permitted to call the more diffused phenomena of this disease.* I allude especially to the constantly recurring diarrhœa, so troublesome a symptom in many cases; to the profuse perspirations arising without any obvious cause, and common to nearly all cases of this affection; and to the emotional excitability of the nervous system which is also generally present.

Many text-books do not even notice the occurrence of diarrhœa and perspirations in these cases, although they form a very important and characteristic part of their clinical history.

I call attention to these points, because they seem to me to suggest very strongly a central nervous lesion as the pathological basis of these phenomena, a lesion the disturbing influence of which is, no doubt, radiated preferentially along special tracts of the sympathetic nervous system, and thus gives rise to those special phenomena to which attention has been too exclusively directed. But this disturbing effect is by

no means thus restricted in the most pronounced examples of this disease; for such diffused phenomena as profuse perspirations, paresis of the cutaneous vessels, obstinate diarrhœa, and an abnormal irritability and mobility of the nervous system are almost constant phenomena. The occasional sudden and simultaneous onset of the characteristic symptoms of the disease, or their equally sudden aggravation after fright or other emotional influences, lend weight to this view; while the irregularity with which the three local affections are developed, one or other being not seldom absent, appears inconsistent with any constant limited local change in any of the sympathetic ganglia. Moreover, the crossed manner in which the peculiar phenomena to which I have called attention in my first case were evolved strongly support the suggestion of the central origin of this affection.

The results of treatment also, I think, countenance this view; for no kind of medicinal treatment that I am acquainted with is attended with the same marked benefit that arises from change of air and scene. This I look upon as the most valuable remedy for exophthalmic goitre, an affection which I believe to be primarily a neurosis of the emotional nervous centres.

EAR-DISEASE AND LIFE ASSURANCE.*

By JAMES PATTERSON CASSELLS, M.D., M.R.C.S. Lond.,
Fellow of the Faculty of Physicians and Surgeons; Surgeon to, and
Lecturer on Aural Surgery at, the Dispensary for Diseases
of the Ear, Glasgow; etc.

IN 1875, a gentleman, aged 30, applied to an old-established and wealthy insurance company to effect an insurance on his life. The medical officer of the company, having examined the proposer, was quite satisfied with the life, save in one respect, and that referred to the condition of the gentleman's right ear, from which there came a constant but scant discharge of pus-like fluid. I have no means of knowing whether the proposer gave voluntarily the information concerning the existence of this ear-discharge to the medical examiner, or whether it was discovered by this gentleman in the course of the examination; in either circumstance, it may be inferred, on the one hand, that the patient did not regard the fact of an ear-discharge as prejudicial to his acceptance by the company, and therefore as not injurious to his health; on the other, that the examination had been unusually exhaustive. From the knowledge that an ear-discharge betokened "incalculable dangers" to the life of the individual who had such a symptom, the medical referee already referred to had decided to report unfavourably upon this case, notwithstanding the otherwise highly favourable circumstances that pertained to it. With an earnest wish, however, to give the proposer every chance of acceptance, he recommended to the society that the applicant be sent to me for a special opinion as to the state of the ear. When the gentleman presented himself before me, he was in excellent general health, and had always been, in an equally good condition. His family history was unexceptionable; as regarded the local affection of the ear, he gave the following history. In 1860, without any apparent cause, and preceded by no defect of the sense of hearing, the right ear began to discharge matter, and this discharge had continued from then till now—sixteen years. Except on one occasion, some years after the institution of the discharge, he never had pain in his ear at any time. On the occasion referred to, he attributed the occurrence of pain to cold caught by imprudent exposure. In reply to the direct question, whether during this painful attack the ear-discharge were in any way affected, he could give no definite reply; but thought that, from its first appearance till now, the discharge had continued unchanged, either as to quantity or to quality. It was noticed that the expression of his face was peculiar; when he laughed, it was seen that the muscles of the left side of the face were alone thrown into action, but motion in those of the right side was not quite abolished. The sensation of both sides seemed equal.

The state of the diseased ear was as follows. He was quite deaf to ordinary conversation on the right ear, and could not even hear a watch on contact, the normal hearing distance of which is six feet. The inner third of the meatus was highly congested; there was no pus or other fluid in this canal, probably owing to the fact that it had been recently cleaned out in preparation for my examination. The right membrana tympani presented numerous signs of old-standing disease, to which particular reference need not be made here. The point which interested me was the following. Traversing the whole upper segment of the membrana tympani, close to the annulus, was to be seen an oblong somewhat semilunar-shaped lesion of the membrana flaccida (Shrapnell's membrane). A probe, introduced through this aperture, passed

* Read before the Glasgow Medico-Chirurgical Society.