

**A case of extreme pharyngeal stenosis the result of syphilis : with remarks  
/ by T. Gilbert Smith and W.J. Walsham.**

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A CASE  
OF  
EXTREME PHARYNGEAL STENOSIS  
THE  
RESULT OF SYPHILIS.  
WITH REMARKS.

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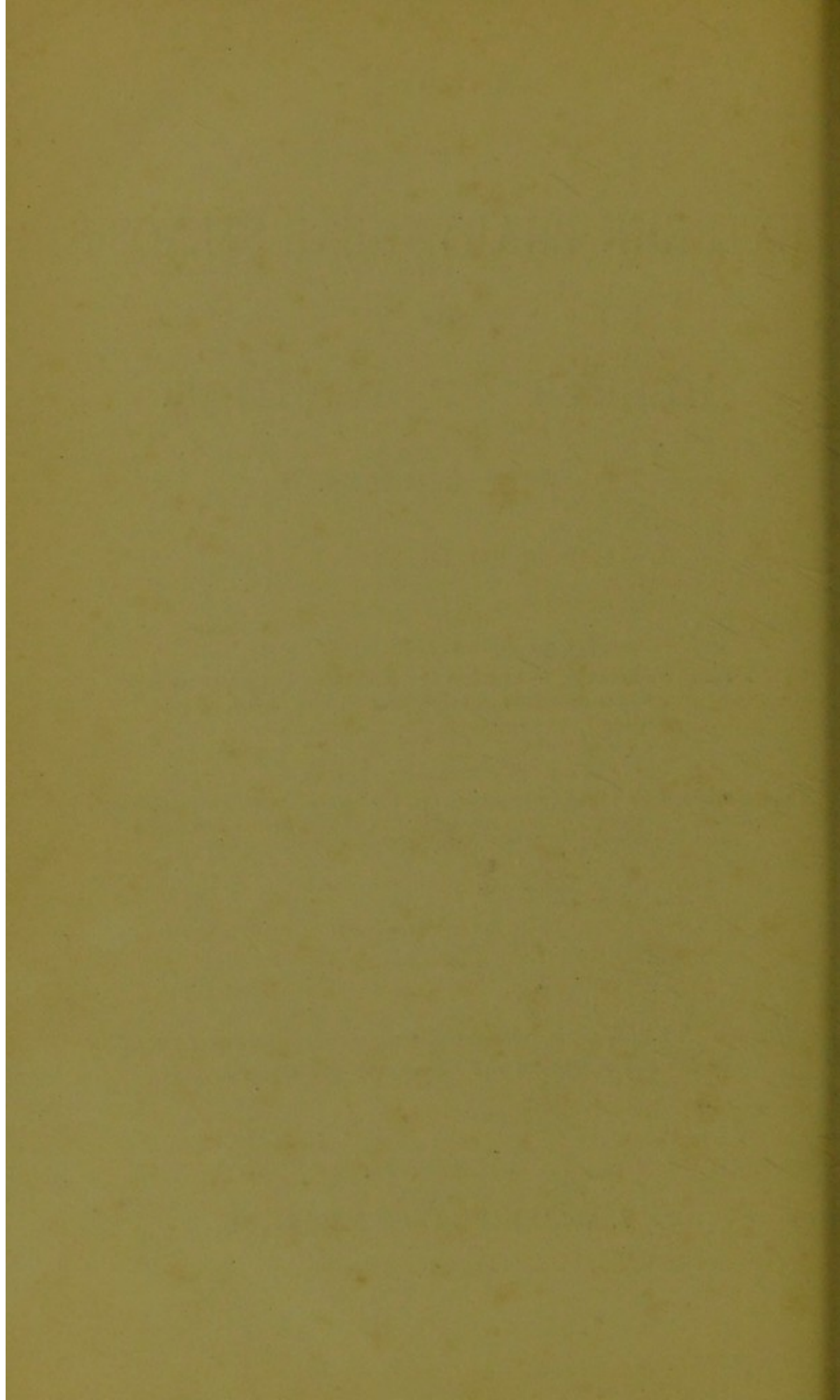
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Read April 13th, 1880.

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R. E—, æt. 47, a lodging-house keeper, was admitted into the Royal Hospital for Diseases of the Chest, on the 29th of October, 1878, under the care of Dr. Gilbert Smith.

As regards her family history, she stated that her parents were healthy almost up to their death from old age, but that her two brothers had died from the effects of violent cold at the ages respectively of 58 and 47. She had no sister. Of her personal history and illness, she gave the following account, viz. That during girlhood and until her marriage, twenty-six years ago, she enjoyed good health, but that a year after marriage she contracted syphilis, for which, after three months, she was



treated by Professor Millar, of Edinburgh, for a period of nine months, when she considered herself cured. However, a vaginal discharge, lasting many months, troubled her while she was pregnant with her first child, which was born three years subsequent to marriage. Although this child presented a healthy appearance, it succumbed to an attack of inflammation of the lungs when eight months old. Besides this child she has had four others, of whom two are living and healthy. She has had no stillborn child and but one miscarriage.

About seven years after marriage she was afflicted with an eruption over all her body, which, however, yielded in six or seven months to treatment; at this period also she suffered from what in all probability was an attack of iritis of the left eye.

Some ten years ago she was for the first time attacked with a soreness of the sides of the tongue, which slowly ulcerated. The ulceration extended to the back of the tongue and throat, rendering deglutition painful. This condition, sometimes better, sometimes worse, continued for four years, when it disappeared, leaving a tendency to sore throat on the slightest exposure to cold. However, four or five years ago it returned, and has since then remained, gradually increasing, until eight months ago respiration became involved, and her voice was for the first time affected, while articulation was difficult, in consequence of the impeded motion of the tongue.

For two months previous to her admission she has been subject to sudden and alarming seizures of dyspnoea, coming on, as she describes them, "like a fit," many times a day.

Her difficulty in swallowing solid food first appeared last May, since which time she has only been able to take food in a liquid form, but this dysphagia has the last week or so somewhat improved. Besides the above she has had no other ailment, and has never suffered from rheumatic fever, hæmoptysis, or any lung symptoms.

Her condition on admission is thus described:—"The



patient is emaciated and weighs six stone eleven and three quarter pounds. She is of dark complexion and has a sallow, anæmic appearance; her cheeks are deeply dimpled as a result of the contracting ulceration. The left pupil is small and adherent, and the sight of that eye somewhat impaired. Her voice is muffled, the pronunciation indistinct and difficult to understand. She complains mostly of the dyspnœa and prostration, also of dysphagia, emaciation, loss of voice, and slight occasional night perspirations. Appetite fair could she but gratify it. Tongue moist and red, protruded with difficulty. Temperature normal; pulse 76, thready and feeble; respirations 24, with stridor accompanying both inspiration and expiration. Urine acid, sp. gr. 1026, containing neither albumen nor sugar. Body emaciated; lungs normal; heart's impulse feeble, sounds weak but natural; abdomen healthy; no anasarca of legs or feet."

On examining her mouth it was observed that, owing to contractions, chiefly involving its right base, the tongue could not be protruded beyond the teeth, which were much decayed; the right posterior pillar of the fauces was drawn backwards and adhered to the pharyngeal wall, whilst the uvula and a considerable portion of the soft palate had disappeared, leaving a clean semicircular border to the part that remained.

The laryngoscope revealed the following changes. The epiglottis, rima glottidis, and vocal cords were invisible; but a small aperture was detected, one eighth of an inch in diameter, situated at the bottom of a funnel-shaped depression to the left of the middle line, and apparently on a level with the epiglottis. It was separated by a thick cicatricial band from another and deeper depression to the right, which terminated in a *cul-de-sac* containing some greenish-yellow pus. Several bands were observed to cross from the root of the tongue towards the posterior wall of the pharynx, effectually glueing the parts together, so that it was doubtful whether there was any communication with the œsophagus save through the above-mentioned aperture.



FIG. 1.

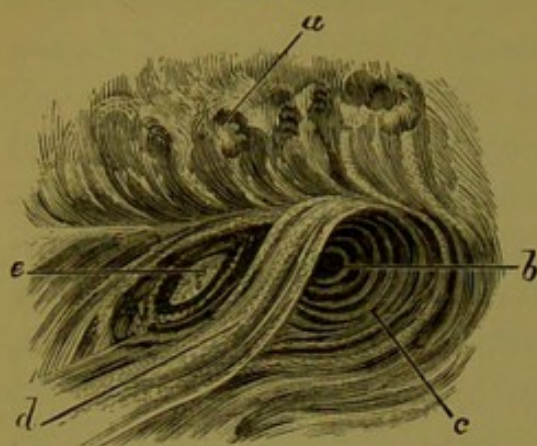


FIG. 2.

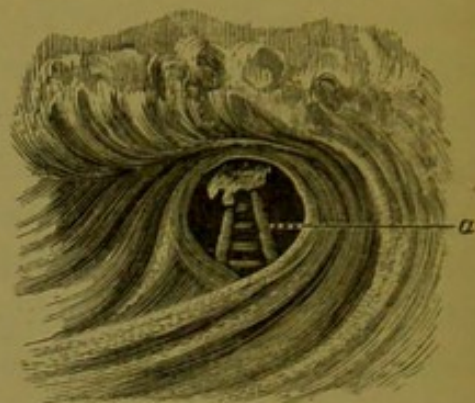


FIG. 1—Showing stenosis in lower pharynx. *a.* Base of tongue. *b.* Aperture for food and air. *c.* Funnel-shaped depression. *d.* Cicatricial band. *e.* Ulcerous *cul-de-sac*.

FIG. 2—Showing condition of the pharynx on the patient leaving the hospital, Dec., 1878. *a.* Enlarged orifice, through which the irregular-shaped epiglottis and vocal cords are seen.

On November the 1st tracheotomy was performed by Mr. Walsham without chloroform. It was borne well; there was no hæmorrhage, and the insertion of a metallic tube gave immediate relief. On the next day one of Mr. Marrant Baker's india-rubber tubes was substituted for the metallic one. The operation (tracheotomy) was, however, followed by an attack of subacute bronchitis, with rise of temperature and considerable expectoration, which gradually yielded to treatment, and on November 19th the following note is recorded:—"Patient feels better; tongue still a little sore; deglutition a little easier; pulse feeble—60. Heart sounds weak. Chest—resonance good, expansion good, breathing rather rough posteriorly and over the apex on the right side."

The pharynx was then again examined, and it was observed that the ulceration looked much less active. In order to satisfy ourselves as to the orifice being common to both larynx and œsophagus, a catheter was passed downwards and found to enter the œsophagus. The tracheotomy tube was then removed, and the catheter, inserted upwards through the trachea, was observed, with the laryngoscope, protruding through the pharyngeal opening.



On the subsidence of the bronchitis the patient was put on a course of mercury and iodide of potassium with tonics.

On November 24th, all signs of active ulceration having disappeared, Mr. Walsham made an attempt to dilate the opening common to the œsophagus and larynx. Various forms of urethral dilators, œsophagus bougies, and laminaria tents were employed, but the greatest success was obtained by introducing into the hole the blades of a small pair of curved dressing forceps, and then forcibly opening them. The tissues, however, were so rigid and unyielding that, although very considerable force was used, the aperture was not materially dilated. The attempts at dilatation, moreover, could only be made for a few seconds at a time, as the presence of the various instruments caused severe spasmodic cough and dyspnoea. Gradual dilatation was also found to be impracticable, as the laminaria or sponge tents when retained in the aperture for more than a few seconds affected the patient in a similar manner.

After the dilatation she was able to swallow some solid food, the first taken for five months.

On the 26th, the second day after the attempts at dilating, the opening was seen to be somewhat larger and to have assumed a triangular shape. Through it was perceived a small movable ridge which was thought to be the epiglottis.

Other attempts at dilatation were made, and the opening again slightly enlarged so that one of the vocal cords could be seen. From this date, November 26th, until December 5th, the attempt at dilatation was continually repeated, but although considerable force was used the tissues surrounding the aperture would not further yield.

It was resolved, therefore, to aid the dilatation by an incision through these tissues.

Mr. Walsham accordingly partially divided the cicatricial band which, as before described, separated the aperture from the ulcerous depression on its right. The incision was made by means of M. Ricord's urethrotome,



but several instruments had been used before one was found adequate to the purpose. The band proved exceedingly tough and creaked under the knife while being cut. The division was attended with but very slight hæmorrhage. On the following day, December 6th, on examining the throat with the laryngoscope the incision was seen gaping, the opening being considerably larger and the parts very tender. On December 8th Mr. Walsham further divided the cicatricial band by means of curved scissors, one blade of which was placed in the aperture the other in the ulcerated depression on the right. The incision was made little by little from the surface downwards so that should any vessel be divided its bleeding orifice might be well in view. After the incision the parts were forcibly dilated by the finger and œsophagus bougie. On the following day the throat was sore and deglutition difficult, a good deal of the food passing into the larynx and trachea, and returning by the tracheotomy tube. However, on the succeeding day there was much less tenderness, and the food no longer entered the larynx.

On December 12th another incision was made in the band at a different spot; the old incision appeared gaping and sloughing. The epiglottis, vocal cords, and arytenoid cartilages could now be distinctly seen on looking through the aperture with the laryngoscope. The epiglottis was red and distorted, the vocal cords white, coming well together on phonation.

On December 14th, the skin about the tracheotomy tube becoming swelled and œdematous, Dr. Hamilton Bland, the house physician (to whom we are much indebted for these notes), removed the tube, when the swelling and œdema immediately began to subside. The opening rapidly contracted, so that by the evening it was completely occluded.

When the patient left the hospital on December the 18th, which she was compelled to do on account of urgent family reasons, she could swallow solid food with comfort; she had no difficulty in breathing, and had gained a stone in weight since her admission. The last examination of the throat



showed the opening to be about  $\frac{3}{4}$  of an inch in diameter and capable of admitting a full-sized œsophagus bougie (see woodcut, fig. 2, p. 4).

On September the 23rd, 1879,<sup>1</sup> she was seen by Dr. Gilbert Smith who once more examined her throat. She stated she was enjoying perfect health, and had no trouble whatever in swallowing solid food or in breathing. The opening in the throat was wider than when she left the hospital, ten months previously, and was from  $\frac{3}{4}$  of an inch to an inch in diameter, allowing the vocal cords to be distinctly seen below an altered epiglottis.

*Remarks.*—We venture to think that this case presents features which may not prove without interest, and that it possesses valuable indications for the treatment of similar conditions.

As regards the nature of the affection, there can be no doubt that syphilis was the “*fons et origo mali*,”—that the extreme stenosis was the result of contractions following cicatrisations of repeated ulcerative processes involving the pharynx. From the history of the case it would appear that the constrictions and narrowing of the lower portion of the pharynx had been in progress for many years, slowly advancing step by step from above downwards. The ulceration seems first to have attacked the back of the tongue and tonsils, then to have spread to the soft palate and uvula, destroying the latter, and glueing, as it were, the right side of the soft palate and the corresponding posterior pillar of the fauces to the posterior wall of the pharynx. Subsequently and more recently proceeding downwards it appears to have invaded the walls of the pharynx as low as the level of the epiglottis where the contraction of the cicatrices resulted in the condition described. We have endeavoured to illustrate what we believe to have been the condition of the parts in a rough outline (see woodcut, fig. 3).

Constriction of the pharynx in this situation appears to

<sup>1</sup> This patient was exhibited on the evening of the reading of this paper, April 13th, 1880, when she gave a good report of herself, and the laryngoscope revealed no recurrence of the stenosis.



FIG. 3.

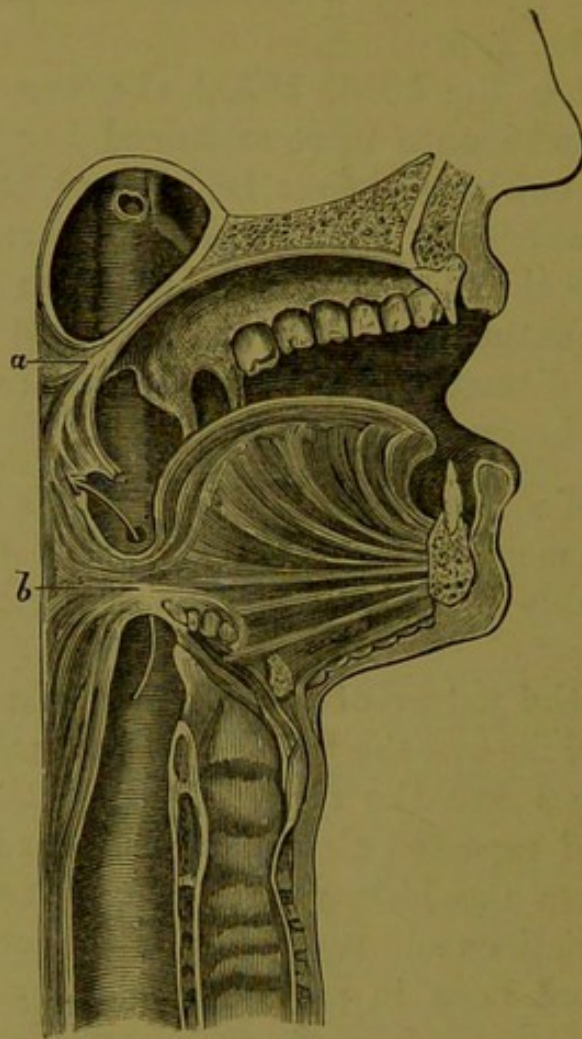


FIG. 3—Showing rough sectional outline of (what we believed to be) the condition of the parts. *a*. Adhesion of the right side of soft palate. *b*. Stenosis of lower pharynx and orifice, with arrow showing position of orifice.

be exceedingly rare. We do not remember having seen any exactly similar case ourselves, and very few, as far as we have been able to ascertain, have been reported. In the upper portion of the pharynx constrictions, although still rare, have been more frequently met with and seem to occur chiefly in two forms. In one the naso-pharynx is partially or completely cut off from the mid-pharynx by adhesions (backwards) of the soft palate and uvula to the hinder wall of the pharynx; in the other the communication between the mouth and pharynx is narrowed by the adhesion of the soft palate and its arches (downwards) to the back of the



tongue. Thus there appears to be three distinct varieties of pharyngeal stenosis, one between the naso- and mid-pharynx, one between the mouth and pharynx, and one, as in this case, involving the lower pharynx. We are well aware that other conditions, such as caries of the cervical vertebræ, post-pharyngeal abscess, perichondritis of the cricoid cartilage, &c., may lead to narrowing of the pharynx; but with such we are not concerned in the present communication. The three forms above mentioned have almost always been due to the contraction of cicatrices resulting from syphilitic ulceration, although from the cases reported by Travers<sup>1</sup> and Wernher<sup>2</sup> there appear to be exceptions to this rule. A few remarks on each form may not be devoid of interest, especially as stenosis of the pharynx has excited but little attention in this country.

Cases illustrating the first form have been reported by Mr. Messenger Bradley,<sup>3</sup> Drs. Cheevers,<sup>4</sup> Ried,<sup>5</sup> Coulson,<sup>6</sup> Scheck,<sup>7</sup> and others.

Partial adhesions in this situation are by no means uncommon, but total adhesion, or entire cutting off of the nasopharyngeal cavity from the pharynx, is exceedingly rare. The most perfect example we have seen is that exhibited by Mr. Bradley at the Pathological Society, in which "the curtain of the soft palate was continued straight back beyond the posterior pillars of the fauces and became incorporated with the back wall of the pharynx, thus shutting off the communication of the posterior nares with the mouth and throat, with the exception of a small orifice of the size of a pea situated in the position which the uvula had once occupied." Czermak<sup>8</sup> reports a similar case in which the interesting phenomenon was noticed that in spite

<sup>1</sup> Türck, 'Klinik der Krankheiten des Kehlkopfs,' S. 315.

<sup>2</sup> 'Centralblatt für Chirurgie,' 1875, No. 30.

<sup>3</sup> 'Trans. Pathological Society,' vol. xxiii.

<sup>4</sup> 'Boston Medical and Surgical Journal,' vol. xcix, No. 21.

<sup>5</sup> 'Sen. Zeitschrift für Med. und Naturwiss.,' i, 4, 1864.  
Lancet,' ii, 20, 1862.

<sup>7</sup> 'Deutsches Archiv für Klinische Medicin,' B. xvii.

Sitzungsberichte der Wien. Akad. der Wissensch., 1858, No. 8.



of the adhesions contraction of the soft palate (*i.e.* rising and flattening) still took place. This is remarkable, for more commonly the muscles of the soft palate undergo atrophy, as in Mr. Bradley's case, in which they were much wasted and replaced by glistening bands of fibrous tissue. This adhesion, although generally due to deep and extensive ulceration, may be the result, as pointed out by Scheck, of a superficial inflammatory process and casting off of epithelium; he also shows that for such adhesions to take place it is not necessary that the ulceration or loss of epithelium should occur on both the palate and the back of the pharynx. This form of stenosis, as we have already mentioned, was present to some extent in our case, and we have also now under observation several patients in whom it exists in a still slighter degree.

The manner in which complete stenosis in this situation takes place we think can be deduced from the study of the various degrees of constriction furnished by these cases. At first catarrhal inflammation leads to various degrees of thickening of the mucous membrane and its epithelium, giving rise to increase of tension of the posterior pillars and hypertrophy of their attachments to the pharyngeal wall. As a result of this there is a greater liability to infiltration and subsequent ulceration from over-stretching of the narrowed arch, and when once this takes place adhesion (following advancing ulceration) from below upwards, accompanied by the formation of cicatricial contractions, is the most likely occurrence unless arrested by treatment. This adhering process is materially assisted by the chronic naso-pharyngeal catarrh usually present; for owing to blocking of the nares by the swelling and secretion of the mucous membrane the respiratory current is absent from the upper pharynx and therefore fails to keep the ulcerated surfaces apart.

According to Scheck, adhesion of the palate to the pharynx is more likely to occur when there is a loss of the uvula or perforation of the palate. For the current of air that is expelled during violent expiratory efforts such as coughing or sneezing passes through the aperture left by the



perforation or absence of the uvula; whereas when these conditions are not present the stream of air falls with its full force upon the adhering surfaces, and so tends to tear them asunder before they have become firmly united.

The second form of stenosis, namely, that in which the contractions interfere mainly with the communication between the mouth and the pharynx, is more rare.

A case of the kind is reported by Mr. West in the second volume of the 'Lancet' for 1872, and we are informed that another was some years ago under treatment at the London Hospital. In the former patient, to use Mr. West's own words, "the soft palate was seen to be ulcerated and cicatrised to the base of the tongue, having on one side an opening only the size of a small pea; through this opening the food had to pass, and the function of respiration had to be performed." He does not state if the communication between the nose and pharynx was cut off. The explanation of this form of stenosis is similar to that which we have already given for the first mentioned variety. Whereas the one is produced by ulceration and contraction of the *posterior* pillars of the fauces, and the drawing backwards and subsequent adhesion of the soft palate to the pharyngeal wall, the other is produced by ulceration and contraction of the *anterior* pillars and the drawing downwards and subsequent adhesion of the palate to the dorsum of the tongue.

Of the third form in which the lower pharynx is affected, cases are reported by Gerhardt,<sup>1</sup> Scheck,<sup>2</sup> Trendelenburg,<sup>3</sup> Schroetter,<sup>4</sup> West,<sup>5</sup> and Cheevers.<sup>6</sup> In Scheck's and Gerhardt's cases a membrane extended across the pharynx from the base of the tongue to the posterior pharyngeal wall. In the former case the membrane presented an oval shaped hole in its centre through which the epiglottis protruded;

<sup>1</sup> "Ueber Syphil. Krankheiten des Kehlkopfs," 'Virchow's Archiv,' xxi.

<sup>2</sup> 'Deutsches Arch. Klin. Med.,' B. xvii.

<sup>3</sup> 'Archiv für Klin. Chir.,' xiii, 2, p. 335.

<sup>4</sup> 'Jahresbericht,' &c., 1871 und 1874.

<sup>5</sup> 'Lancet,' ii, 1872.

<sup>6</sup> 'Boston Med. and Surg. Journal,' vol. xcix, No. 21.



in the latter case the orifice was eccentrically placed, and altered its shape in speaking; the epiglottis and vocal chords could not be seen, and the membrane felt soft, and seemed to be composed of muscular as well as of mucous tissue, as the movements observed were not communicated to it by the tongue. Trendelenburg's case, which is alluded to by Wendt in 'Ziemssen's Cyclopædia,' resembles the above; but the aperture in the membrane was only the size of a pea and its closure caused dyspnœa. These cases appear to differ from ours, inasmuch as the stenosis depended upon the presence of a soft membrane rather than upon tough cicatricial bands. Schroetter has observed conditions resembling those found in our patient, in which scar-like tendinous bridges or trellis-like bands traversed the cavity of the pharynx, and like side scenes closed in upon its lumen.

Mr. West also alludes to a case in the article in the 'Lancet,' above mentioned, in which M. Ricord "performed tracheotomy on a patient who was almost moribund with advancing asphyxia," and in which after death the pharynx, soft palate and epiglottis appeared to have been affected in a manner similar to that observed in our case. Dr. Cheevers also relates an instance of tertiary syphilis where the pillars of the fauces were ulcerated away, and the passage downwards was gradually closing—the patient becoming slowly unable to breathe.

With reference to the treatment, the first indication was clearly to relieve the patient of the distressing and alarming attacks of dyspnœa which threatened at any moment to terminate life.

This it appeared to us would be best accomplished by the immediate performance of tracheotomy. Considering that the respiratory function was carried on through an aperture so minute, and at any moment so liable to be further diminished, or perhaps even occluded by sudden œdema, any delay would, in our opinion, have been dangerous in the extreme. Moreover, when we reflect that, as was afterwards demonstrated, this small orifice served for the passage of food as well as air, we cannot but wonder that it had not



long since become blocked with a fatal result. The subsequent history of the case has strengthened our belief that opening the trachea was the best and only safe course to pursue, and it is the one we should most strongly recommend in any similar case. It may be objected that tracheotomy was uncalled for, at least until dilatation of the constricted part had been attempted; but we submit that such an attempt would in all probability have added to the dyspnœa, already urgent, and necessitated a hasty performance of tracheotomy, as even after the trachea had been opened, any attempt to dilate caused intense suffocative fits of spasmodic cough and dyspnœa. However, we advocate the performance of tracheotomy, not only as a temporary expedient to obviate death from suffocation whilst some more effectual measure for permanently relieving the constriction is being planned, but also as essential to the satisfactory and safe performance of any such subsequent operation. In the first place, it allows difficult manipulation to be borne with diminished spasm; secondly, it relieves the surgeon of a considerable source of anxiety; and thirdly, it reduces the risks should hæmorrhage take place, for, having secured a free passage for air, blood could be prevented from entering the trachea by plugging the upper portion of this tube. Of this danger from hæmorrhage we were not ignorant, knowing that in a similar case, where tracheotomy had not been performed, death from suffocation had resulted, owing to the formation of a blood-clot in the trachea.

With regard to the measures resorted to for the permanent relief of the stenosis, it is noteworthy that all attempts at dilatation signally failed to produce any real benefit; and gradual stretching by means of laminaria and sponge tents, notwithstanding the opening into the trachea, could not be endured.

Caustics and the use of the galvano-cautery did not commend themselves to us, seeing that in other forms of



pharyngeal stenosis relief afforded by such means had been only of a temporary character.

It was not, however, until we had thoroughly convinced ourselves of the inutility of further efforts at stretching that we resolved to resort to cutting. We felt that not only should we experience the usual difficulties of all operations where the structures needing division can only be seen as reflected and inverted images, which, at the moment of making an incision requiring precise care as to force and direction, frequently disappear, but also we should be in no little danger of wounding important structures in consequence of the altered anatomical relation due to contracting lesions. The marked drawing inwards of the cheeks and the tissues behind the angle of the jaw, together with the impaired movement of the tongue, left us in doubt as to how far the internal carotid artery had been involved in the cicatrices.

We have delayed laying this case before the Society in order to be in a better position to report upon the result of the treatment. As it is now twelve months since the last operation was performed, and as at present no recurrence of the contraction, but, on the contrary, much improvement, has taken place, it appears probable that this improvement will continue and that stenosis will not recur.

Although fully aware of the questionable value of deductions drawn from the experience of a single case, we venture to formulate the following as the conclusions which we think may have a practical bearing on similar lesions :

That tracheotomy is called for both as a temporary expedient to obviate sudden death from asphyxia, and as an essential factor for safe and satisfactory treatment.

That division with a guarded knife presents advantages over other methods of operation.

That several small notches are preferable to a single deep incision, and that, when possible, the parts should be gradually divided from above downwards, so as to allow of a full view of the cut surface of the tissues divided.



That the aperture should be enlarged in a direction so as to permit the passage of liquid food clear of the entrance to the larynx.

In conclusion, we would add that the rarity of the lesion, the difficulty in recognising its exact nature, and the lines for treatment of similar cases which the operative measures here undertaken suggest, are our apology for bringing the case before the Society.



