

## CHAPTER XL.

### DISEASES OF THE PHARYNX.

THE pharynx is the pouch entered on passing through the oro-pharyngeal space. Its boundaries are as follows: above, the base of the skull; posteriorly and laterally, the constrictor muscles; anteriorly, the plane of the opening which associates it with the mouth.

The pouch communicates with seven associate parts; namely, with the mouth, the larynx, the œsophagus, the two nares, the two Eustachian tubes.

Dissection of the pharynx exhibits it as a muco-musculo-aponeurotic bag held open by attachment above to the petrous portion of the temporal bone, and laterally to this same bone, to the pterygoid processes of the sphenoid,

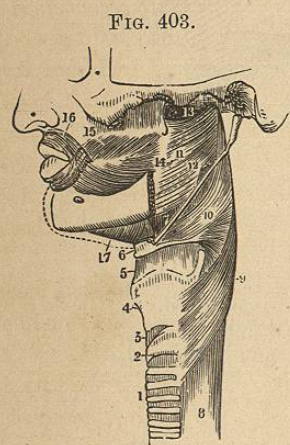


FIG. 403. SIDE VIEW OF PHARYNX AND ITS MUSCLES. 1, trachea; 2, cricoid cartilage; 3, vocal membrane; 4, 6, thyroid bone; 7, stylo-hyoid ligaments; 8, œsophagus; 9, inferior constrictor; 10, middle constrictor; 11, superior constrictor; 12, portion of stylo-pharyngeal muscle; 13, upper extremity of pharynx; 14, pterygoid-maxillary ligament; 15, buccinator muscle; 16, oral orbicular muscle; 17, mylo-hyoid muscle.

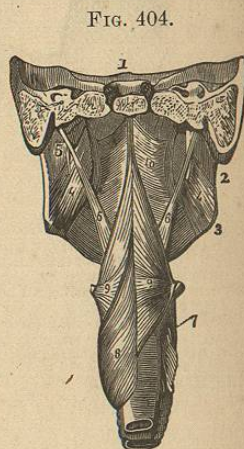


FIG. 404. POSTERIOR VIEW OF THE MUSCLES OF PHARYNX. 1, vertical section transversely of the base of the skull just in advance of the cervical vertebrae; 2, 3, posterior border and angle of lower jaw; 4, internal pterygoid muscle; 5, styloid process, giving attachment to, 6, stylo-pharyngeal muscle; 7, pharynx; 8, inferior constrictor of the pharynx; 9, middle constrictor; 10, superior constrictor.

the pterygo-maxillary ligaments, the angle of the lower jaw, the hyoid bone, and to the larynx.

The base, or framework of the pouch, is an aponeurosis. This is a fibrous structure internal to the muscular layers; thick above, where it is attached

to the skull, thin below, where it proximates the apex. The muscles are ten in number; these being fairly separable into five pairs. Figs. 403 and 404 show and name these muscles; affording as well appreciation of the posterior and lateral relations of the pouch. Fig. 27 shows an inside view of the pharynx. The mucous lining, seen in the last-named diagram, is soft and brownish red. The epithelium covering it is of the columnar ciliated variety above; below it resembles that of the mouth in being squamous.

Membrane and underlying parts are related by much submucous tissue in which are imbedded a large number of glands, these being of the racemose and follicular varieties.

The blood-vessels of the pharynx are derived indirectly from the internal maxillary and thyroid arteries. The nerves issue from the glosso-pharyngeal, the pneumogastric, and from the sympathetic system.

The pharynx is partly divided into an upper and a lower portion by the soft palate which extends incompletely across it. The part above the velum is termed the naso-pharynx; its immediate relation is with the nose. The part below is named the oro-pharynx; its association is with the mouth.

The soft palate, or veil, is a musculo-membranous curtain concerned in the processes of deglutition and speech. It may not inaptly be described as a fold of the common oral mucous membrane extending backward for some distance from the ledge of the hard palate, then turning upon itself, after dropping a pouch—the uvula—and passing forward to line the nares. Between these layers, relating with each other at a median raphé, are five pairs of muscles. These muscles are elevators, depressors, lateralizers. A special pair—azygos uvulæ—arise from the spine of the conjoined palate bones and extend into the uvula pouch.

**Diseases.**—The diseases of the pharynx relate to the mucous membrane and elements of the submucous tissue. Affections of the muscular and aponeurotic structures are uncommon.

**Pharyngitis.**—Pharyngitis, active, passive, or chronic, is the pathological condition most frequently met with. The aspect of phases presented in inflammation of the parts depends partly on the nature of the cause, partly on the state of health of the patient.

Angina simplex, common sore throat, inflammation arising out of taking cold, is ushered in by a sense of irritation about the throat which later progresses to a condition of huskiness in voice and pain in swallowing. Examination reveals a swollen state of the parts, a bright-red color, velvety appearance of the surface, a uvula more or less elongated and œdematous. Result: commonly resolution; sometimes laryngitis, trachitis, œsophagitis, and inflammation of Eustachian tube by extension through continuity. Treatment: feet in hot water, dry cups to neck, saline cathartics, refrigerant diaphoretics or diuretics, a gargle composed of one grain each of hydrate of chloral and sulphate of zinc to the ounce of water. A medicine found frequently to break up at once a sore throat, consists of twenty to forty grains of bromide

of potassium combined with five drops of tincture veratrum viride and the one-quarter of a grain of elaterium; the whole to be taken in a wineglass of water on going to bed. Phénol sodique, a tablespoonful to a goblet of water, is an admirable gargle in all conditions of sore throat; in diphtheria it is reasonably specific, while the use of it is to be recommended prophylactically wherever this disease is prevalent.

In ill constitutional conditions pharyngitis may rapidly advance to a state of ulceration or even gangrene. Indications here direct special systemic medication. In diphtheria the congested pharyngeal membrane is commonly covered with patches of exudate which have extended from the palato-pharyngeal fold, requiring a special local as well as systemic medication; local remedies are tincture of iron and chlorine-water, these being alternately applied by means of mop, brush, or atomizer, every one, two, or three hours according to urgency. Constitutional remedies are found in the direction of the chalybeates and preparations of bark. (See works on Practice of Medicine.)

Follicular inflammation of the pharynx limits itself chiefly to the crypts; these, however, commonly ulcerate and cause a very great deal of pain and nervous disturbance, although not commonly exciting the febrile condition. A continuous desire to hawk or spit is the first sign of follicular inflammation. Examination of the throat reveals the pouch reddened and studded with oval granular patches lying within areolæ of congested tissue. The patches are the diseased follicles. The summit of each presents a whitish translucent appearance which is apt quickly to change to the condition of ulceration. Where the general health is unimpaired this ulceration is found to be the point at which turn is taken towards cure; the sores healing commonly within a few days. In bad states of the system the ulcers oftentimes exist for a long time; taking on a chronicity and an indolency which render them the source of much distress.

Treatment of follicular inflammation differs nothing as the active, or first stage, is concerned, from that employed for angina simplex. Becoming chronic, the ulcers remaining stationary or enlarging, local and general stimulation is indicated; the former particularly. As a gargle no medicine surpasses the tinctura capsici et myrrhæ used in dilution; enough being dropped into water to change the color of this fluid to a bluish white. Chloride of zinc in the proportion of two grains of the salt to an ounce of water is another valuable means. Still another is found in a formula as follows:

R.—Acidi carbolici fluidi, gtt. xii;  
Tincturæ calendulæ, ℥iv;  
Aquæ, Oj. M.  
S.—Gargle frequently.

Dilute chlorine water—Watson's formula (see *Dublin Pharmacopœia*)—is an invaluable application in association with stimulants; being used with the atomizer. In diphtheritic sore throat this remedy plays an invaluable

part as a solvent of the exudate and a preventive of blood-poisoning. In the estimation of the writer it approaches a specific.

Other means of treating ulcers in follicular pharyngitis refer to touching them with solid caustic or alterative preparations: agents of this class are nitrate of silver, sulphate of copper, alum, etc.

**Pharyngitis Sicca.**—Pharyngitis sicca, atrophic pharyngitis, senile inflammation of the pharynx is an atrophic condition esteemed commonly as associated with age or as the ultimate of chronic pharyngeal or naso-pharyngeal catarrh, or as a state dependent on constant contact with dust or other foreign agents of offence. A case of this nature, lately under care of the writer, in the person of a gentleman aged eighty, presented the single disagreeable symptom of dryness, this being so great and persistent as to necessitate the continuous use of glycerine as a lubricant. Dr. E. L. Shurly, of Detroit, in an able monograph on the subject, lays stress on systemic conditions influencing and keeping up the condition; these being functional or organic derangements of the stomach and allied parts, rheumatism, enfeeblement of the circulatory apparatus, etc.

The principle of treatment lies in accepting the expression of local paralysis. Means of relief or cure refer to the correction of systemic defects, particularly as nervous derangement is concerned, and in the employment of local lubricants and stimulants. The use of a constant electric current as applied through a Grenet battery is credited with some virtue by Dr. Shurly. The prominent feature in the diagnosis refers, in the estimation of the writer, to interference with the nerve supply of the parts; the sympathetic system being most apt to be found at fault. In this connection, and as well in relation with all local expressions of enervation, the author finds that great reliance is to be placed on the use of Volta's pile, applied by taking pieces of sheet-zinc and copper and securing galvanic action by placing between the two a strip of woollen cloth saturated with cider vinegar.

**Effusions.**—Effusions into the submucous tissue of the pharynx are frequently met with. These are semi-plastic in character, and tend to limit themselves to one side of a vertical line, principally to the right side as met with in the experience of the writer. When extensive, the membrane is thrown forward to an extent that sometimes interferes markedly with deglutition. If not resolved, such effusion may result in abscess. Primary treatment is by local stimulation. If pus form, speedy vent is to be given it.

**Post-Pharyngeal Abscess.**—Retro- or post-pharyngeal abscess is a form of disease differing from that just alluded to alone in situation, the effusion and pus being situated between the pouch and vertebræ. The subjects of it are generally children of scrofulous habits; the cause, acute pharyngitis or disease of vertebral column. Diagnosis refers to subjective and objective symptoms. The abscess being situated high up, the bulging of the pouch is plainly to be seen. When the position is low down, judgment is to be formed by the seat and nature of obstruction. A diffused abscess may baffle the very

experienced. The condition is always to be looked on as serious, being of constitutional import. Treatment consists in venting the pus as soon as discovered, and in ministering to the patient supporting cordials and tonic medicines. Iron and cod-liver oil are always indicated.

**Specific Conditions.**—Syphilitic ulcers of the pharynx, while not common, except as relation is had with the soft palate, are yet not sufficiently infrequent to deny them notice in connection with diseases of the part. The affection is among the earliest of the series of secondary phenomena. Syphilitic erythema is very much more common to the pharyngeal walls than are ulcers; indeed, it is to be asserted that any secondary or tertiary expression manifesting itself about the tonsils, uvula, or palate will have associated with it this blush of the pouch.

Syphilitic ulcers of the pharynx differ nothing in appearance and character from such sores when affecting mucous surfaces generally. There are two varieties, the superficial and the excavated. Superficial sores are commonly multiple; they simulate abrasions, showing, in many cases, no other expression than that of lost epithelium; in others, being of ragged, or, it may be, of undermined edge. Sometimes the sore assumes a serpiginous form. An excavated one is the analogue of a Hunterian chancre. It is deep, has a pasty bottom, and is indurated.

**Tubercles.**—Specific tubercles are occasionally met with in this location; these are irregular elevations of the mucous membrane, generally of oval form, and of whitish color. To the touch they are not unlike chancres. When becoming confluent, as is sometimes the case, the degenerated surface may break down with the result of an open ulcer of the second class as above viewed.

**DIAGNOSIS.**—Diagnosis of venereal affections of the throat relates to color of the parts,—which is that of copper,—to the peculiar feel, and to co-existence of the disease in the system at large.

**TREATMENT.**—Treatment concerns itself with prescribing; first, for the vice at large; second, for local indications.

An anti-venereal of satisfactory import in secondary syphilis is a formula as follows:

R.—Hydrargyri chloridi corrosivi, gr. ij;  
Potassii iodidi, ℥ij;  
Sarsaparillæ fluidi extracti, ℥viii. M.  
Dose, tablespoonful three times a day.

Where the disease is of tertiary form it is usually found well to omit the mercurial, replacing it with a medicine of anti-scrofulous signification: cod-liver oil, having combined with it the hypophosphites of iron, lime, and soda, is hardly to be used but with profit.

Local treatment differs little from that employed on chancre of the penis. If the sore be of the superficial variety it may be all-sufficient to touch it lightly with a dilute mineral acid. Nitrate of silver, in stick or solution, is an admirable remedy. Acid nitrate of mercury, diluted in eight or ten parts of

water, is highly commended, being brushed over sore and neighboring parts once each day. Phénol sodique, diluted one-half with water, is never found otherwise than useful. This last remedy not being at hand, an admirable substitute is found in common tar-water, made by stirring a tablespoonful of tar in a goblet of water, adding to this carbolic acid to suit indications. Where the sore is of excavated character it may be touched moderately with the London paste, or, what answers an admirable purpose, crystals of zinc chloride may be laid in the part and allowed to deliquesce, care being taken that the fluid do not run over adjoining localities, and that as soon as permissible it be mopped from the ulcer with bibulous paper. Plethoric persons require depression; the anæmic are to be stimulated.

**Wounds.**—Wounds of the pharynx demand attention in consideration of indications. A case treated by the author, where the pouch was opened just above the larynx in an attempt at suicide, resulted in permanent aphonia. In a second case of injury to the region a stick in the hands of a boy passed through the posterior wall and struck against the vertebral column. The recovery was without a bad sign, soothing gargles being alone used.

Gun- or pistol-shot wounds are the commonest injury to the region. Primary indications relate with the removal of the missile, the control of hemorrhage, and the recovery from shock. Treatment of the hurt implies little more than the directing of fluid food and the prescribing of antiphlogistic lotions.

An ugly complication of wounds perforating the mucous membrane of the pouch is emphysema of the neck; the areolar tissue of the region sometimes becoming so much distended as to be a cause for much alarm; the swelling not at all times disappearing with a rapidity to be desired.

Incised wounds of the pharynx require to be closed with stitches of the interrupted suture where such stitching is conveniently to be accomplished; the ends of the ligatures are to be cut off close to the knots so that, when ulcerated free, the thread may fall into the throat. Thread of catgut replaces happily that of silk. The staphyloraphy needles apply (which see).

**Stricture.**—This condition, as affecting the pharynx, has never been met with by the author except as associated with carcinoma.

**Imperforate Pharynx.**—Cases of imperforate pharynx, as relation is had with the œsophagus, are on record. If met with, a practitioner could do nothing apart from a practice directed by common experience derived in analogous directions. A case lately under the care of the writer showed such an imperforate condition of the naso-pharyngeal opening, ulceration of the nasal surface of the velum having attached that part immovably to the region above it. No opening existed between nose and pouch.

**Neoplasms.**—Cancer of the pharynx proper is rare. A case in the Hospital of Oral Surgery showed the sac so completely occupied by a sarcoma growing into it from the maxillary sinus that the patient was unable to pass any but the most fluid food. Another case in the same hospital

exhibited the soft palate so involved that a pendent mass completely filled the oro-pharyngeal orifice, extending back to the posterior wall, interfering not only with deglutition but with respiration.

Cancer occurring directly in connection with the pharyngeal walls is apt to start in the submucous cellular tissue close to the œsophageal locality. A first expression is in the form of an infiltration which is apt to afford primarily idea of cold having been taken. Stricture arising out of the condition is incurable; operation is only a prolongation of misery sure to end fatally.

Fibromata, of which mention is to be found in connection with the soft palate, are always to be associated with doubtful prognosis. Fungiform papillomata, except where of pronounced venereal character, are not unjustly to be regarded with like concern.

Polypi falling from the naso-pharyngeal space back of, and below the velum, are not infrequent. These are to be caught from the oral opening and twisted off. A second means of evulsion employs a wire écraseur passed through the nostril. (See *Polypi*.)

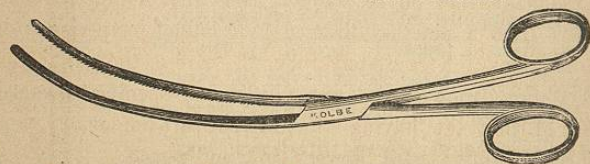
**Uvula.**—Tumor of the uvula, caused by hypertrophy, may be of such bulk as to interfere with respiration by descending into the laryngeal opening. Treatment is by amputation. (See *Uvula and its Diseases*.)

Irremovable causes of interference with the pharyngeal openings, either of larynx or œsophagus, are to find all correction possible in the operation of tracheotomy or œsophagotomy. (See *Tracheotomy*.)

**Foreign Bodies.**—Pertinent to this direction of our study is a reference to the probability of foreign bodies lodging about the parts considered. First; artificial teeth and plates. Pivot teeth falling from their sockets are commonly swallowed; no harm results where the pivot remains in the root. A tooth of this class carrying with it into the intestines a pivot of wood or metal is not disassociated with danger existing in the possibility of perforation. A guard is found in feeding the patient largely on mush with a view to distending the intestinal tract as much as possible.

A plate commonly lodges about the orifice of the œsophagus or descends into that tube. Very lately the writer was called to an accident of such nature where a piece of quite an inch across had worked along full half-way down

FIG. 405.—BOND'S ŒSOPHAGUS FORCEPS.



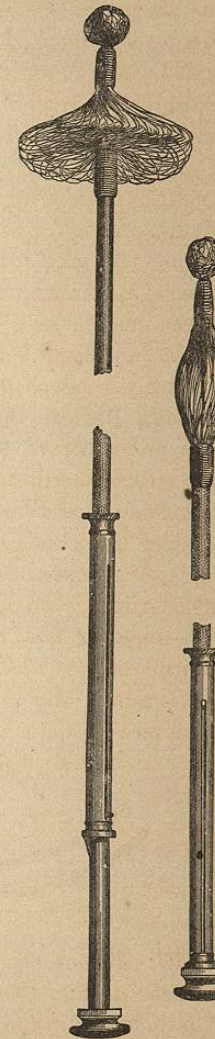
the canal. Removal was effected with very little difficulty by use of forceps as here shown, Fig. 405.

A plate lodged in the apex of the pharynx is to be felt with the finger, and, if no forceps be at hand, is not infrequently to be dislodged and thrown from the mouth through the production of emesis.

A plate in the œsophagus is commonly to be located by pain induced from pressure made over its seat.

Bones swallowed in eating may be stayed in the œsophagus. An instance of this kind under observation by the author showed the obstruction fixed at the cardiac orifice of the stomach; the body could not be made to descend and it seemed alike impossible to withdraw it. Manipulation with long forceps continued, at varying intervals, over two or three days, resulted in catching the piece at a proper axis and getting it out. Œsophagitis followed, but quickly resolved itself.

FIGS. 406, 407.—BRISTLE PROBANGS.



One of the very immediate results of the presence of a body impacted in the apex of the pharynx is spasm, this being at times so severe and persistent as to smother the patient quickly if relief be not afforded. Opening of the crico-thyroid membrane is the indication; to be followed by tracheotomy, if necessary. If chloroform be at hand it may be employed with hope of relief from the effects of the stricture. Moments are, however, as hours.

Fish-bones, bristles from a tooth-brush, and similar small particles, are the not infrequent causes of great suffering from lodgment in the throat. A first place to look for all such bodies is in the lingual sulci found on either side of the frænum epiglottis; failing in discovery here, examination is to be directed backward. Small bones incapable of being dislodged are to be rendered flexible by the free use of acids.

Instruments used in search of such bodies, known as bristle probangs, are exhibited in Figs. 406 and 407. As will be recognized these probangs fold the bristles on introduction into the œsophagus, spreading them out, thus searching the circumference of the tube, on withdrawal.

The swallowing of a pin is a not infrequent event; the writer has occasionally been called to these accidents without finding the body; in no case has there been any serious result.

A fish-hook attached to its line has been swallowed into the œsophagus where withdrawal was effected by means of a lead ball perforated and slipped over the string. Extending the twine and allowing the ball to drop a dislodgment was secured and the hook brought up, its point being caught in the metal.

Soft bodies in the œsophagus, if at all impacted, are to be helped to their