POST-NASAL ADHESIONS

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In approaching this subject it is necessary as a preliminary to consider the anatomy of the region albeit in outline and review the formative characteristics concerned.

The central post-nasal portion of the nasopharynx by reason of the bony framework of its supporting boundary walls is maintained rigidly patent. The domed surface above and behind is fashioned by the body of the sphenoid and the basilar portion of the occipital bone and the inclined plane in front by the ossifically defined posterior nares. The mucous membrane covering these parts is closely adherent, and the cavity so circumscribed remains under all normal conditions rigidly open and air containing.

The lateral wall of the nasopharynx is quite different in that it has no bony structures for supporting walls, and the mucous membrane is loosely adherent and pliable. Occupying a greater part of the extent of the lateral wall is the considerable funnel-like orifice of the eustachian tube bounded above and behind by a prominent rounded eminence curbing the eustachian cushion which is lacking in front and below. The orifice presents at the outer margin of the posterior nares on each side, level with the posterior end of the inferior turbinate, and it is directed towards the meati the source of its aeration.

Behind the cushioned opening of the eustachian tube a vertical cleft leads into a compressed recess of considerable depth the walls of which are approximated but are normally smoothly separable by a stroking downward movement of a readily admitted examining index finger. This is known as the lateral recess of the pharynx or Fossa of Rosenmuller which with its mate of the opposite side makes this position the widest part of the pharynx. The examining finger demonstrates the unsupported nature of the lateral recess, the pliability of its walls, and at its depth its correspondence there with the Sinus of Morgagni the name applied to the semilunar space which intervenes between the upper crescentic margin of the superior constrictor muscle and the basis cranii where this deficiency of muscular strength is compensated for by an increased strength of the pharyngeal aponeurosis. And here at the Sinus Morgagni the lateral recess projects over the upper margin of the superior constrictor beneath the petrous portion of the temporal bone. The finger palpates the posterior surface of the Eustachian tube and above the under surface of

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the petrous bone where in close relation the levator and tensor palati muscles receive their origin.

The pharyngeal portion of the eustachian tube, one inch in extent, is cartilaginous and membranous, and behind is covered by the mucous membrane of the lateral recess. The bony portion of the eustachian tube within the petrous bone is one half inch in extent, and at the junction of the two portions the lumen of the tube is at its narrowest. The lumen of the eustachian tube is slit like but is opened on deglutition by the movement of the muscles attached to its walls. The lining cells are ciliated for the function of keeping the channel clear.

It may be of importance that above the lateral recess is in close relation to the petrous bone and proximate to the neighbourhood of its contained labyrinth.

It cannot be doubted that the set up conditions of the lateral recess are ideal for the implantation and harbourage and establishment of pathogenic infection, and the clinical findings so commonly met with of the presence of adhesions binding the walls of the lateral recess are surely proof of previous or persisting inflammation. Indeed, instead of continuing to talk in general terms of the nose and throat being the portal for most of the general infectious diseases that afflict humanity, it might be found that the accusing finger might rightly be directed at this focal position as being in particular responsible.

Whereas the Fossae of Rosenmuller are blind compressed pouches wherein stagnation might conceivably be expected to occur, particularly in the presence of adhesions between its walls restraining functional mobility, the mouth and throat are lavaged by the frequent consumption of food and drink, and the cavities of the nasopharynx are constantly ventilated by breathing and cleaned by nose blowing and throat expectoration.

The part played by mechanical interference by adhesions with function is evidenced by the remarkably prompt relief of disability that clearance of the binding adhesions effects. The adhesions that are found to occur are of all degrees from fine to sparse to dense and abundant, confined to the recess or in odd cases binding the cushion of the Eustachian Tube in firm grasp.

In a very extensive hospital and general practice over a period of thirty years I became early aware of this incapacitating condition and planned and practised my remedial intervention. I have no hesitation in stating that the presence of postnasal adhesions is generally very common and that indeed it is rare for the lateral recesses to be found in their normal state of being perfectly smooth and clear.

Anatomists inform us that the lateral recess is the remains of the pharyngeal portion of the second visceral cleft, the lower part of which is represented in the supra-tonsillar fossa. It is intriguing to think of the

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mischief-making kinship of this vestigial remain and that of the appendix vermiformis in the abdomen. Whereas the latter is responsible for occasions of greater consequence, the divers disturbances precipitated by the former are much more frequent.

In making digital examination of the post-nasal space and lateral recesses an anaesthetic is not usually required. A composed type of patient when advised what is to be done does not mind submitting to the ordeal and goes through with it without much discomfort for what is little more than momentary interference on each side.

He lies recumbent on the surgery table, and the surgeon standing behind his head introduces a mouth gag, and then with the right index finger for the right side introduces its tip up above the soft palate into the depth of the recess, making therein a downward firm stroke which is felt to break down adhesions. According to their condition found this procedure may require to be repeated one or two times. The patient is then allowed to get up and clear his nose and throat of often considerable mucus discharge tinged with blood.

After an interval to allow him to become comfortably composed he declares himself to be ready again for the procedure to be performed on the left side, the left index finger being used.

Most patients go through this ordeal with only a watery eyed grin. They are perfectly conscious of the cracking break of adhesions and are instantly aware and gratified at the wonderful feeling of clarity in the head and freedom of nasal respiration that they could not remember ever having experienced before.

The disability resulting from the persistence of adhesions in this location is not only mechanical as a result of distortion, and binding of the parts affected, in particular the Eustachian tube, but also infective due to the retention of mucopus, perhaps under tension, in the interstices of the fibrous meshwork formed. Meticulous elimination of the offending adhesions is the remedy for both.

With high strung and hysterical individuals and children a brief and light anæsthesia is required. The performance is followed morning and night by a gravitation bland saline nasal irrigation, the little duck glass container being used by the patient himself or by the mother of the child. The effect of this practice is the expulsion of accumulated mucus and the cleansing of the nasopharynx and I have never experienced any ill effect from its use.

Finally to maintain the open condition of the lateral recess that has been gained the patient after each irrigation, in the erect position, and with the mouth tightly closed, makes half a dozen vigorous nasal inspirations as has been demonstrated to him which distend and as it were balloon the region without the eustachian tube being involved in this inflation. I would not contemplate the use of the Politzer bag for this

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objective because it would not achieve the purpose and because of the real risk its use entails of forcing infected mucus into the middle ear, for which design it might appear to have been invented. On the conclusion of this routine post-operative attention, after a matter of a week or ten days, a final digital exploration is made to ensure that there is no recurrence of the adhesions and that complete freedom for the functioning of the parts obtains.

The clinical manifestations resulting from adhesions in the lateral recess are firstly those in common due to loss of functional mobility of the parts and persisting retention of accumulated muco-purulent discharge, and secondly special where particular structures have become signally involved, as for instance the Eustachian tube by distortion, the adenoid by contaminating extension, and other close environmental structures such as the labyrinth by congestive and inflammatory invasion which is not unlikely but which on my part would be speculative to claim. The clinical symptoms and signs rendering the condition suspect are chronic post-natal catarrh with annoying frequent hawking of phlegm and clearing of the throat. Shreds of mucus may be seen dropping down behind the posterior pillar of the fauces. Most constantly characteristic is a distressing heaviness of the forehead between the eyes, and an ever-present feeling of thickness in the head, and difficulty in concentrated application to study and reading. These individuals feel miserable and complain of lassitude. Dizziness is often complained of, and tinnitus may be a feature with intermittent dullness of hearing. Vertigo may be present in varying degree, sometimes quite disabling. This is experienced by some golfers, a number of whom have informed me of a swimming feeling when swinging a club.

Selected cases: (1) A girl aged 14 years, recently arrived in my town, was brought to me for adenoid operation as considered necessary by a doctor elsewhere. She was troubled with nasal obstruction alternating from side to side, with mouth breathing at night. The nares were clear, and to digital examination adenoids were not marked. I swept the examining finger down the lateral walls and recesses, breaking down fine adhesions. There was some show of mucus and blood. Nasal breathing at once became remarkably clear, and the case ceased therefrom to occasion any concern to the parents. A number of cases of what appeared to be adenoid trouble have I encountered that have in this way avoided operation after clearance of adhesions in the lateral recesses and had their healthy state restored.

(2) A bushman, aged 48 years, appeared before me in desperate case, life being as he expressed it unendurable. He had a constant heavy feeling between the eyes and a thickness of the head that would not clear. Intermittently nasal breathing was obstructed and he was continually bothered with hawking phlegm to clear the back of his throat. He was subject to singing in the ears. Adhesions were abundant in both lateral recesses and required several strokes on either side before their clearance was effected.

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The clarification of his head, and his fulness and freedom of nasal breathing was at once manifest. His whole head was clear as never before. At a later date a further finger examination was made encountering only slight adhesions. He remained thereafter full of rejoicing.

(3) A lady schoolteacher consulted me for a persisting heaviness between the eyes and a difficulty of concentration and application to her studies, and a continuing feeling of lassitude. She had consulted an eye specialist but there was no ocular defect. I ascertained that she had a habit of hawking a little phlegm at times from the back of her throat. Digital examination revealed adhesions in the lateral recesses which I broke down by a downward stroke movement of the finger on each side occasioning a little blood exudation which quickly ceased. She at once felt strangely clear in the head and remained to her great delight permanently cured. A number of such cases are encountered.

(4) One night at 11 p.m. a staggering actor, supported on his legs by two fellow artists holding him up by the arms, was brought to my surgery. He was a member of a theatrical company visiting my town and during the performance was overwhelmed by a severe attack of vertigo. In the light of my experience I contemplated this case, wondering if post-nasal adhesions were responsible for disturbed pressure in his labyrinth. Laying him on the couch, his friends holding his arms on either side, I introduced a gag, then passed an index finger up and above the palate and explored the lateral recesses which I found bunged up with a collection of massive adhesions. I was able to break them down on one side when my actor patient leapt loose from us on to the floor and said, "Good God, I have recovered", and in pleased amazement stamped confidently about the room to prove it. When after an interval I suggested doing the other side he scoffed derisively at the idea and with happiness in his head and agility in his legs went jauntily on his way. The collection of adhesions in this case was the most massive I ever encountered.

On examination of the literature available to me I have never come across any reference to post-nasal adhesions which is the subject of this paper, until I noticed in the *New Zealand Medical Journal* of April, 1951, a report of an address given by Mr. Alan Wardale in which he makes mention of his experience of having encountered a few occasional cases of fibrous adhesions involving the Eustachian tube following operation for adenoids. He commented: "Occasionally symptoms due to fibrous adhesions between the Eustachian tubes and the post-nasal space are encountered following adenoid removal. I have personally met about six such cases in all of which the presenting symptom was otitis media. I remember very well the first time I encountered this condition. I had removed the tonsils and adenoids for recurrent catarrhal otitis media in a little girl of five, whose father was a doctor, and what was worse, my own anaesthetist, and as may well be imagined he was familiar with these

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views. About six months after the operation he brought her back with another attack of earache, and as doctor's children always go wrong I wondered unhappily what was the matter. Mirror examination revealed nothing abnormal and I dubiously suggested that I should examine the post-nasal space under anaesthesia. This revealed definite fibrous bands in Rosenmuller's fossa which were broken down by the finger and there has been no more trouble since." Mr. Alan Wardale had been made aware how disabling in its effects adhesions involving the eustachian tubes could be, and how simple was the remedial measure necessary only to be employed. In dealing with his subject "The Adenoid", he makes reference to the teaching of Mr. Negus that at the conclusion of tonsillectomy the finger should be inserted into the post-nasal space and the adenoid squeezed into the middle line taking particular care to clear Rosenmuller's fossa with the finger tip. Mr. Negus as quoted does not say why, but his finger points significantly to the scene of my disquisition, wherein mucopurulent catarrh with the formation of crippling adhesions are frequently like to take place, occasioning distressing chronic incapacity that readily and promptly responds to and is dissipated by simple treatment.

The object of this paper is to reveal the common incidence of this condition for as far as I can ascertain it is not generally known, and attract recognition of its importance as a factor in diseases of the nose, throat and ear deserving constantly to be borne in mind in their diagnostic consideration.

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