



Adenoid Vegetations

being a

Thesis

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by
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Adenoid Vegetations

The malady selected as the subject of this Thesis, is on what has been described as Adenoid Vegetations or Post-Nasal Growths - a disease to which a good deal of attention has been paid of late, and which I have had considerable opportunities of studying in the Throat Hospital Golden Square London, and the Throat Cliniques at Vienna.

This morbid condition consists of a Hypertrophy of the Adenoid Tissue situated on the roof of the Pharynx, a part designated as the Pharyngeal Tonsil or Tonsil of Luschka.

The disease has only recently been described or received that attention which it justly merits, influencing as it does the development of youth. In the year 1859 Czermak of Pesth seems to have been the first who directed any attention to the Nasopharynx as seen with the Rhinoscope - in a paper by him ① four cases of nasopharyngeal disease are described: the last of which reads very like a case of Adenoid Vegetations. This paper was followed by the publication of articles by Semelweis, ② Stoerk, Voltolini, and Wagner, but the first named writer

① Wiener Medizinische Wochenschrift August 6th 1859.

Sydenham Society. Vol XI "Selected Monographs" page 78-79-80

② Die Rhinoskopie und ihre Werts für die Otorhinische Praxis 1862

has especially developed the art of Rhinoscopy.

Notwithstanding these writings, it remained to Wilhelm Meyer of Copenhagen ¹ to publish the first complete account of this disease. His paper was read before the Medico-Chirurgical Society of London in 1869 and is published in Volume LIII of their Transactions. Since this paper was written not very much has been added to our knowledge of the subject, and it has formed the basis of all subsequent investigations of the disease.

In Paris great attention has been directed to the morbid condition by Lowenbey and Chatelain: the latter - named Author's work "Des Tumeurs adénoïdes du Pharynx" being very interesting and elaborate.

Considerable notice has been taken of this disease in Germany for some time past, notably by Professor Fraenkel of Berlin ².

There have been very few publications on the subject in this country. Morell Mackenzie seems to be the first to describe the disease in his book on "The Diseases of the Nose & Throat". Salby ³ has also directed attention to the subject. Butlin, Lemux Brown and Woakes have also investigated the condition.

1. "Hospitals Tidende" November 4th 11th 1867

Archiv für Ohrenheilkunde 1873.

2. Deutschen Medicinische Wochenschrift No 41 1884.

3. Lancet October 2nd 1886.

As regards the reason of the non-recognition of the disease in this country till a comparatively recent date, I think it must be due to the profession not having had the means or the will - or rather the means for acquiring the will - necessary for examining the larynx. How many Medical Students or Medical Practitioners are there, who are familiar with the feel, or the appearance of the Larynx, as obtained with the finger or the Rhinoscopic Mirror? Another reason may be brought forward I think, namely that the symptoms were thought to be due to Enlarged Tonsils - a condition which often accompanies Adenoid Vegetations - and treated accordingly. Then if the patient did not improve, Scrophula was considered the cause of the mischief.

Since the introduction of the Rhinoscope some excuse must be made for its non-recognition, owing to the difficulty of examining the patients, who are generally children.

The importance of recognizing the disease early cannot be too strongly urged on the Profession, owing to its prejudicial effect on the voice, development, and in many cases the hearing.

power of the child. Its importance as regards voice can be estimated, when one remembers the function of the nasopharynx in giving resonance to speech. By the impediment to the respiration which the disease occasions, the Throat is badly developed and the child becomes pale and anæmic; but perhaps the deafness which is present in so many cases is its most important effect.

Ætiology. So far I have been unable to discover any distinct cause for this condition.

It affects all classes of the community, as Hygienic conditions do not seem to have any direct relation to its development.

Meyer thought a wet climate especially favoured the disease. In my experience it is just as common in a wet climate as a dry one, judging from the frequency of the disease in London & Vienna. It has not been my good fortune to observe a case in Cornwall yet, a decidedly damp climate.

Dr. Scares Spicer's observations on the Ætiology are worthy of notice. He thinks the condition is due to cold setting up a Chronic Rhinitis, from
①. Lancet October 27 1888

which the acid and peroxidal secretions pass over the Pharyngeal Tonsil and cause its Hypertrophy. He thinks dust, pollen and other finely divided matters will have the same effect. The germs of Measles, Scarlet fever and Small Pox act in a similar manner. In young children, he thinks the absorption of vomited or resurgitated matters will cause the disease. He is of opinion "that this state of Chronic Inflammation and debility of the tissues of the upper Respiratory tract is not distinguishable from Struma and is often associated with Anaemia, debility and Lymphatic gland affection of the neck..... leading to depressed vitality of the tissues of the rest of the Respiratory Tract and facilitating the superaddition of Bronchitis or Pneumonia and preparing the soil for the reception of the Tubercle Bacillus".

The disease has not been observed long enough to draw any conclusions as regards its Hereditary transmission. Chatellier ¹ says on page 15 that children of consanguineous marriages are often affected. On page 16 he says he knows a family in which one of the parents was affected with Adenoid Vegetation and that four of the children have the

¹ Chatellier "Des Tumeurs Adenoides" Paris 1886.

same disease, with open mouth, pinched nose, short upper lip which is thickened, and overhanging and prominent incisor teeth. On page 17 he says that patients who have suffered from Follicular Tonsillitis, transmit Adenoid Vegetations to their children.

Sex appears to have no decided effect. In Vienna I found cases were males and ♀ females.

Dr. J. von Beregszászy assistant in Professor Schmitzer's clinic at Vienna informs me, that the disease is common among the Jews.

Symptoms. In most cases I have found the patients' friends complain that the child snores a great deal, or that sleep is much disturbed by dreams and nightmares.

The patient is usually a child between the ages of 7-14, pale in face with a stupid expression due to the mouth being constantly open. The alae nasi are pinched. The lips, the upper especially, are thick, and dry owing to the air passing over them. The tongue is dry for the same reason.

Chatellier says that the air sinuses of the head as the Frontal, Sphenoidal, Ethmoidal and the Antrum of Highmore cease to develop, as the

air does not circulate freely through the nose. Hence the dimensions of the face are altered.

On looking into the mouth the palate is found to be highly arched and so the transverse diameter of the mouth is lessened. I have seen it stated that this disease accompanies Cleft Palate, but have been unable to verify it. The Tonsils are large in many cases. Granular Pharyngitis is observed in some cases. Very often there is seen a peculiar yellow discharge running down the posterior wall of the pharynx.

The voice is muffled, just as if the child had an acute Coryza. The letters P.B.M.R. are very imperfectly pronounced: for instance common becomes Cobbold; song sogg. Dickens has a very good illustration of this mode of speaking in "Oliver Twist", when he makes Barney one of Fagin's gang say "Stradelpas is the best wot" and "Ah! ad nob' wods too, from the cuttry, but nubthing in your way, or I'd be bistaked" He seems to think it characteristic of race.

Fleudenthal ³ has observed stuttering and Hernia present in people with Adenoids.

The Breathing in bad cases is wholly carried on by the mouth. When a patient is told to close his mouth and breathe through the nose a very imperfect

① "Monatschrift für Ohrenheilkunde" Nov Dec 1887

Jan Februar 1888.

current of air is felt. Chatellier on page 27 mentions the case of a gentleman undergoing his military training, who could not perform his gymnastic exercises owing to the difficulty of breathing through the nose. He also states that children are often seized in the night with paroxysms of distressed breathing, which alarm the parents.

The Thorax is not well developed: the sides are flattened and compressed and expansion is not good. These changes are due to the imperfect air supply which reaches the lungs.

Deafness is in some degree present in most cases. This must be due to air being unable to pass up the Eustachian Tubes to the Middle Ear in sufficient quantity: or to a catarrhal inflammation spreading up the Tubes to the Middle Ear causing an Otitis Chronica. Orsell Baber © states that it is due to the dilator muscles of the Eustachian Tubes not acting properly.

Trinitas Aurium is stated by Meyer to be very often present.

The Taste and Smell functions do not seem to be affected

The Intellectual functions do not appear to me remarkably affected. Prof Fieukel ② of Berlin

1. British Medical Journal Sept 15 1888
2. Deutschen Medicinische Wochenschrift No 41. 1884.

says" that the impairment of intellect and want of energy manifested by these children is real, and not merely in the expression of their countenance, and it is made evident when watching these children after the growths have been removed. To the gratification and astonishment of the parents and teachers, the children hitherto sluggish and dull of comprehension now make rapid progress, and their comrades soon cease to make a laughing-stock of them. It seems as if, through the removal of the obstructing vegetations in the naso-pharynx they had become different beings."

Sometimes the patients complain of pain at the posterior part of the head and a feeling of weight in the head. Fraenkel says "the children come home from school complaining of pain in the head, and desire to lie down and occasionally vomit. On the next day they have sufficiently recovered to go to school again. Slight fever sometimes accompanies these attacks. In many cases the parents and physicians content themselves with a diagnosis of migraine in explanation of these oft-recurring attacks. The children pass their holidays in the country, or at some health resort where they are comparatively free from such attacks yet they return home bringing their old trouble with

them. Then it is said "the children cannot bear the air of the school room". Finally the adenoid growths are removed and the child restored to health". In my limited experience I have not met with such an advanced state of affairs; but certainly the patients seemed to be rather deficient in mental powers as evidenced by their not comprehending what was said to them.

Local Examination. Important as the symptoms are in giving one a clue to the nature of the disease, I think there is nothing so important for establishing a proper diagnosis, as the physical examination of the growths themselves. Under the most advantageous circumstances it is far from an easy matter to obtain a good view of the Post Nasal region with the Rhinoscope, and in patients suspected of having Adenoids, who are for the most part young, it is especially difficult. The other method of examination is with the fore finger passed into the Nasopharynx. This is rather a disagreeable operation but it has this advantage, that it can be used when it is not possible to use a Mirror.

In order to Palpate the Nasopharynx it is necessary

that the patient should sit down, or at any rate that that the patient's mouth should be on a level convenient for the examiner to introduce his finger. If the patient is a child the hands and feet had better be held by an assistant. It is a good plan not to warn the patient what you are going to do. The surgeon should stand on the right side of the patient, and directing him to widely open his mouth, pass his forefinger gently into the mouth and behind the Soft Palate into the Nasopharynx. It is not necessary to use a gag, but a towel wrapped round the left forefinger and placed between the teeth on the left side is a good plan to prevent the patient biting. This method of examination should not be practiced until after Posterior Rhinoscopy, as it makes the Pharynx and parts in that neighbourhood hypersensitive and difficult to inspect.

To examine the Nasopharynx with the Rhinoscope a small Laryngeal Mirror (Number 1) should be used. It is a mere matter of practice so I will content myself with giving just these hints: to depress the tongue well; to direct the patient to breathe through the nose, and to have the head bent a little forward. In cases where the Palate will not remain quiet it is a good plan to make the patient sound "ON" through the nose. Hooks

for drawing down the palate air of no use, owing to the discomfort to the patient.

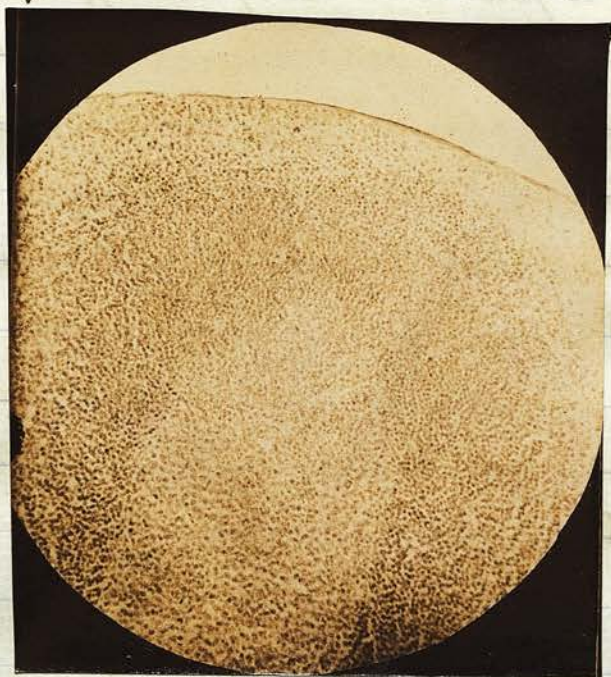
Results of Examination. In a well marked case one feels with the finger a soft elastic mass, springing from the roof of the Nasopharynx, and hanging down into that cavity. The mass is lobulated like a bunch of grapes and the lobules feel about the size of peas. In other cases the mucous membrane seems elevated into rounded nodules. I have not found the chiasm well marked in the region of the Eustachian Tubes. After withdrawal the finger is usually tinged with blood as the growths bleed very easily. The mass is very soft, and parts may be easily detached by the finger.

On examining with the Rhinoscope in a marked case, one is first struck by the difficulty in seeing the openings of the Posterior Nares satisfactorily, especially towards the upper parts. Instead of the Septum and Turbinate bones a mass of yellowish mucous crusts is seen, perhaps smeared with some blood. When this mucus has been removed by means of a spray of Carbonate of Soda and Borax, a glistening mass like a bunch of grapes is seen hanging from the roof of the Nasopharynx. The lobules are rounded, pyriform

Horizontal section through an Adipose Vegetation



A Lymph Follicle



or may be pedunculated. The mass is yellowish or pinkish, but there is always a difference between it and the surrounding mucous membrane. The usual seat of the disease is the roof and upper parts of the sides of the Nasopharynx. I have not observed them springing from the Tubes, Septum Narium or from the upper surface of the Soft Palate. In many cases the Tonsils are large and often there is Granular Pharyngitis.

The Mucous Membrane of the Anterior Nares is generally Hypertrophied

Morbid Anatomy. From the examination of specimens of the growths removed and cut into sections by myself, I am of opinion that the disease consists in a mere Hypertrophy of the adenoid tissue normally situated in the Nasopharynx. The lobulation is an exaggeration of the folds of the mucous membrane which exists in that region.

The photographs on the opposite page are taken by Mr. Andrew Peirce from my own specimens.

The growths have a surface of Columnar sometimes ciliated epithelium. Beneath this

Vertical section through an Adenoid Vegetation



is Retiform tissue with many Lymphoid cells. There are many Lymph Follicles and Blood vessels. Mucous glands are sometimes seen.

Diagnosis: From the symptoms one can gather a good idea as to what is the trouble from which the patient suffers: but there are a few diseases whose symptoms are not unlike Adenoid growths which must be shortly considered.

Enlarged Tonsils: This condition is very common in young children and gives rise to symptoms very similar to Adenoids: but if the removal of the Tonsils does not alleviate the symptoms, Adenoid are probably present and should be sought for.

Nasal Polypus: causes difficulty of breathing through the nose, but is rare in children.

Chronic Rhinitis: causes symptoms not unlike Adenoid, but such advanced cases are rare in children.

Enlarged Bursa Pharyngis: This bursa is a remnant of foetal life situated at the top of the Nasopharynx, which becomes distended with mucus & swells up to form a rounded mass in that cavity.

A bead of mucus is often found at the apex of the swelling on the surface. The chief symptom is difficulty of breathing through the nose.

Relation to Granular Pharyngitis. In Vienna I saw a lad who had large flat granules on the posterior wall of his pharynx. On examination with the Rhinoscope, these were found to extend upwards to the roof of the naso-pharynx, where they had the appearance of the small nodules formerly described. This case showed how intimately these diseases are related. Chatelain ⁽¹⁾ on page 17 mentions that some children have Adenoids while others in the same family have Granular Pharyngitis.

Statistics. The disease is met with mostly in children and I think it is more common than is supposed. Meyer examined 2000 school children at Copenhagen and found that 20, or 1 per cent showed distinct symptoms of the disease. He also examined 700 children at the Orphanage Havensloek Hill and found that 13 or nearly 2 per cent had Adenoid growths.

Professor Soyew saw 4000 children at Leyden and found that 5 per cent showed symptoms of the growths.

1 "Des Tumeurs Adenoides." Chatelain. Paris 1886.

The disease has a very important relationship to diseases of the middle ear. Meyer examined 1083 cases of deafness and found 80 cases of Adenoid Vegetations or 7.5 per cent. Of 175 cases who had Adenoids 130 or 70 per cent were affected with middle ear disease.

William found that of the 712 cases who were attending the ear clinic of Dr Hartman in the half year 1886, there were 135 cases of Adenoid Vegetations, nearly 20 per cent. Of 242 children under 15 who had disease of the middle ear 90 or 40 per cent had Adenoid Vegetations.

Schmiegelow reports that of 119 cases of Adenoid Vegetations 100 or 84 per cent had disease of the middle ear.

Brouner ⁽¹⁾ has collected from Private cases and cases at the Bradford Eye & Ear Hospital 198 cases of middle ear disease under 15 years old, and found that 101 or 50 per cent had Adenoid Vegetations. These were removed in 90 cases, thus clearing up all doubt as to diagnosis. Of 152 cases of Adenoid Vegetations 125 or about 85 per cent showed symptoms of past or present affections of the middle ear.

In the month of October 1888 321 cases came to Professor Schmitz's Throat Clinic at the

⁽¹⁾ British Medical Journal July 14 1888 page 73

Allgemeines Poliklinische Verein. Of these 17
suffered from adenoid growths of various degrees.
Below will be found a short résumé of each case
showing the principal symptoms.

- Boy 7 typical face - throat - deaf. small growth. had measles
Girl 10 Deaf - throat - difficult breathing through nose.
Girl 14 Arched palate - throat - discharge - scarlatina.
Girl 22 Operated on before - difficult breathing - small growth
Girl 16 Difficult breathing - large mass of growth divided into two.
Boy 11 Deaf - throat - discharge on pillow - flat growth - pale.
Girl 13 Anæmia - arched palate - deaf - not well marked growth
Girl 14 Throat - had measles - small growth - very pale.
Boy 4½ Throat - difficult breathing - anæmia - marked growth
Boy 17 Nothing typical in symptoms - has some growth.
Boy 14 Face typical - had scarlatina - marked growth.
Boy 15. Very deaf - throat - scarlatina - marked growth
Girl 19. Growth not well marked - throat - Turbinate hypertrophied
Girl 18. General hypertrophy of mucous membrane.
Boy 11 Deaf after fever - throat - palate arched - large mass.
Boy 15 Only a month breathless - deafish - fairly marked.

The best case I must quote is that of a girl (Kunstmann)
aged 24 who was a fine healthy looking man but
a confirmed mouth breather. He had a large mass
of growth but did not speak very characteristically.
He could barely breathe through his nose with his

mouth closed. After operation he at once improved. His voice, hearing & breathing eventually became quite normal.

I have seen three cases of Enlargement of the Bursa Pharyngis

Prognosis. The improvement which takes place in the patient's condition after operation is very marked, and apparent very soon. In my experience no bad results follow radical treatment.

The disease should be removed as early as possible in the child's life, as it has a very debilitating effect on the development and owing to the lowered vitality the patient might become a suitable nidus for the Tubercle Bacillus to flourish in.

Diphtheria or any disease liable to affect the throat would have a much more doubtful prognosis if the nasopharynx were affected with Adenoid Vegetations.

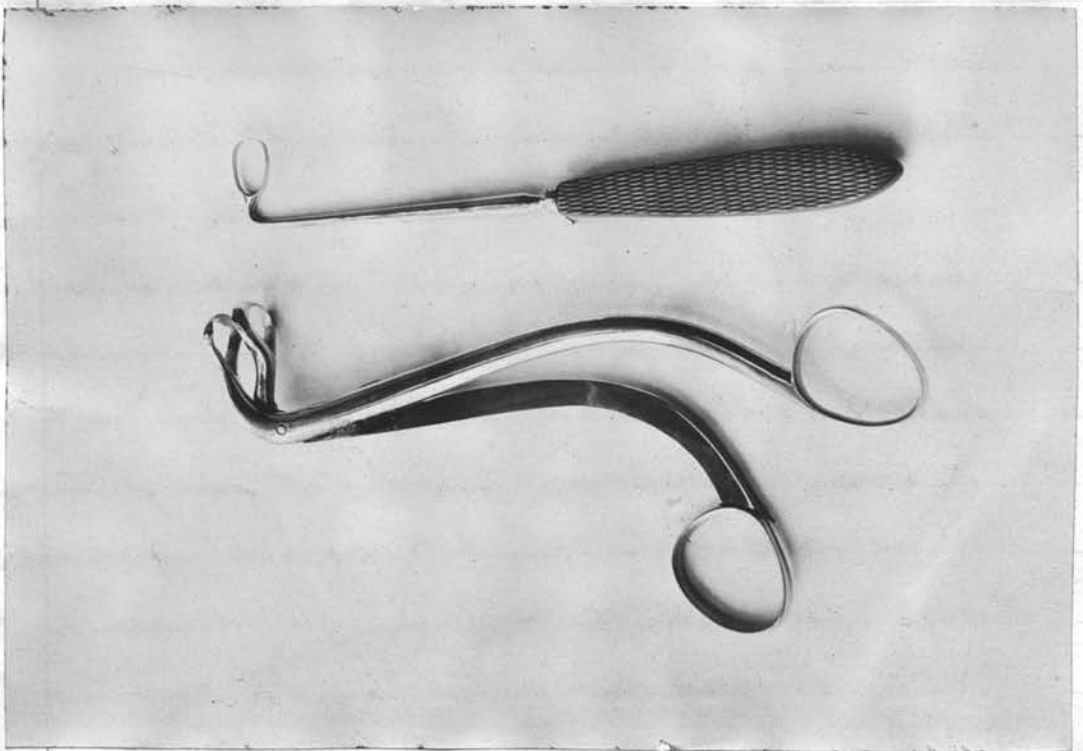
I think the growths tend to atrophy as the patient grows up: but this should not preclude an operation as the effects of the disease are lasting.

Treatment. It must be apparent that this disease requires some radical form of treatment; owing to the deleterious effect it exerts on the child's health and the organ of hearing.

It may be urged against operation, that as the child grows older its troubles will cease; this is quite possible as lymphoid tissue which is hypertrophied does tend to atrophy as the child increases in age; but on the other hand the effects of the disease begin and continue while the growth and development of the child are most active and the results of this malnutrition remain all its life time.

As regards the administration of an anaesthetic, it does not appear to me to be absolutely necessary except in the case of a young and nervous patient. If an anaesthetic must be used Chloroform is the best, as it does not act on the sensibility of the pharynx and neighbouring parts so much as others. In Cocaine we have an excellent local anaesthetic with this great advantage, that the patient is in the sitting posture and perfectly sensible. I have operated 5 times using a 20 per cent solution of cocaine, and found it acted admirably.

Treatment



2

1

Ether I have also used but I do not think it is so good as Chloroform. The danger of Ether and Chloroform is in the blood passing down into the Larynx. Dr. Franklin H. Hooper ¹ uses Ether, and has the patient seated in a chair, a proceeding fraught with much danger. The only disadvantage of Cocaine is that sometimes the operation has to be repeated.

The Haemorrhage is not very much and soon ceases when the patient gargles a cold antiseptic lotion.

There are many methods of treating this affection, all of which I shall mention, only fully describing the method I have practiced and found best.

There is no doubt, that the only mode of thoroughly extirpating the disease is by means of cutting forceps. There are many kinds of forceps all modifications of Lowenstays, but for my own part I prefer those of Schütz made by Marconi of Vicenza, as shown in Photograph ². They open antero-posteriorly.

The method of operating is as follows. The Naso-pharynx must be brushed 3 or 4 times with a 20 percent solution of Cocaine allowing about 15 minutes for it to act. The patient must be seated & if considered

¹ "Adenoid Vegetations in Children" Read before the Boston Society for Medical Observation page 8
1888.

necessary the hands and feet held. The head should be steadied. A gag is necessary sometimes in young patients. A good light should be thrown into the pharynx and the forceps introduced closed into the nasopharynx. The utmost gentleness must be used in getting them round the soft palate. It is not necessary to use the finger as a guide, as one soon learns the feel of the nasopharynx: the finger is of use as a tongue depressor. The cutting ends of the Forceps having reached the nasopharynx they should be passed up to the roof still closed and pressed firmly against the mass: then they should be opened, still pressed upwards, and closed firmly. Without removing the forceps, this cutting operation should be repeated two or three times and then the sides should be attacked in the same way. A slight twisting action is advisable, but it should not be too rough. Care must be taken not to injure the Eustachian Tubes. After removing the forceps, the cavity should be explored with the finger to feel if any growths remain. If any disease remains I use Hartman's Ring knife (no 2 in photograph) for removing it. It is pressed firmly against the roof of the nasopharynx and drawn

from side to side

When all the growths have been removed the patient should be directed to gargle warm Boracic solution, and it is a good plan to reject some of the fluid through the nostrils. Considerable pain and swelling of the part remains for some days after the operation, but I know of no other inconveniences.

If Chloroform is used the patient must of course lie down with the head low; in fact on the edge of the table as then the blood will tend to flow down the Oesophagus.

There are many other means of operating, every operator seeming to have his own method.

Meyer uses a Ring Knife introduced into the naso-pharynx through the Nostrils, the fore finger being used through the mouth as a guide.

Carl Michel and Voltolini use the Galvano cauterium through the nose.

Guyp of Amsterdam uses the nail of the fore finger. To do this thoroughly the nail must be very strong.

Sir William Stalby ¹ recommends an artificial finger nail made of metal. It has

¹ Lancet October 2nd 1886

this advantage that it leaves the pulp of the finger free from palpation

Gottstein of Breslaw uses a Ruy knife, which is drawn antero posteriorly instead of laterally as Hartman's is.

Selstauche of Brunnels has an Adleson. I have seen this in Professor Politzer's clinique at Vienna, and consider it too complicated for practice.

The application of strong Caustics as Chromic Acid and nitrate of Silver are useless.

In one case where the growths were small I tried a cold share introduced through the mouth under the guidance of a mirror, but found it did not answer.

I have in this paper endeavored to give as clear and concise a resumé as possible, of the history and literature of Adenoid Vegetations, including a description of many cases which have come under my own observation in the various clinics which I have had an opportunity of attending.

The conclusion at all events may be

avoid at from the consideration of this
malady, that although apparently so
trivial in its nature, yet its effects are
great in proportion when we think of its dire
results in arresting growth and development.
Its diagnosis is attended with certain
difficulties, but when its removal by
operation is followed by such rapid and
permanent improvement, this fact alone
amply rewards whatever energy and facility
of manipulation have been devoted to its
study.

I hereby certify that this Thesis
is my own composition and writing.

Peruzance. Feb. 19. 1889. H. W. Montgomery