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# INCISION OF RETRO-PHARYNGEAL ABSCESS ACCORDING TO ANTISEPTIC PRINCIPLES: FROM THE NECK

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THERE can be no doubt that if we have to open a deep-seated abscess situated in the neighborhood of the large cavities or canals of our body, it is better surgery to do this from the outside than to penetrate the wall of the cavity from within. The latter procedure certainly is nearly in every instance more simple, but it is less safe, and not in accord with antiseptic principles.

The prostatic and retro-pharyngeal abscesses are types of this class of cases. I have recently advocated, in incising the prostatic abscess, to always give the preference to the perineal route instead of piercing the rectal wall, and based my plea on a personal experience of four cases successfully operated in this way.[1] To-day I beg leave to call the attention of this Section to the incision of the retro-pharyngeal abscess from the side of the neck as being greatly superior to the old method of a direct pharyngeal incision through the mouth.

Of course only the non-perforated retro-pharyngeal abscess is here considered, viz., where the pus

* Read before the Section on Surgery of the New York Academy of Medicine.

[1] *New Yorker med. Monatsschrift*, 1894, No. 1.

is still confined to the retro-visceral space. Where it has spread toward the lateral surface of the neck, having passed under the external cervical aponeurosis outward from the vascular bundle, a direct incision from outside is self-understood.

It is true the so-called idiopathic retro-pharyngeal abscess, which is in most instances due to an acute purulent inflammation of the lower retro-pharyngeal lymphatic glands, has often been cured by an incision through the mouth.[2] But in small children, with marked dyspnea caused by a deep-seated abscess, this procedure may be difficult and dangerous. We have to dispense with narcosis and its advantages; the antiseptic treatment, proper irrigation and drainage are rendered impossible.

In view of the two latter points (proper irrigation and drainage) the incision from the neck will be decidedly the preferable one in all retro-pharyngeal abscesses of septic origin. It is often possible by this operation to extract a sharp foreign body which may have been swallowed and has been arrested behind the cricoid cartilage before it has created an inflammation in the prevertebral space.[3]

That, before all, the prognosis of the *tuberculous* retro-pharyngeal abscess will be materially benefited by the "antiseptic incision" is evident. In all other parts of our body every surgeon tries nowadays, not only to give proper exit to the tuberculous matter, but to perform the operation under careful antiseptic precautions, to scrape and

[2] F. T. Bokai: Sollen wir den idiopathischen Retro-pharyngeal abscess von aussen oder von innen eroeffnen? *Pædiatrische Arbeiten*, Berlin, 1890, pp. 371–378.

[3] Burckhardt reports a very interesting case of this kind. *Centrlbl. für Chir.*, 1888, p. 59. Case 3.

iodoformize the cavity, and to conduct the after-treatment also in a strictly antiseptic manner. Queer enough to say, up to the present time the majority of surgeons have exempted from this rule the tuberculous abscess caused by "cervical" spondylitis. Antiseptic or aseptic methods have here simply been ignored. A direct communication was intentionally established between the mouth and the abscess, an occurrence which in other operations on face and neck is always avoided with the utmost vigilance. If such an opening is accidentally established during the operation it is considered an annoying complication. How many patients may have died with, perhaps even in consequence of, this incision by putrid infection of the abscess cavity; how many may have been injured by aspirating or swallowing tuberculous material; how many may have had an abundantly running sinus at the posterior pharyngeal wall, is not easy to determine. KRAMER looked up a number of hospital reports of the last 10–15 years with reference to these points.[4] No special information was gained therefrom. They do not give the final result of this operation. They only deal with the further development of the original disease—cervical spondylitis. I am, of course, fully aware that almost every surgeon who is accustomed to incise the tuberculous cervical (retro-pharyngeal) abscess through the mouth has seen some patients cured in this way. But he has certainly never been able to carefully explore, then, the abscess-cavity with his finger, to feel a cariotic spot of the vertebra, to extract a tuberculous se-

[4] *Centralbl. f. Chir.*, 1892, p. 234.

questrum, to pack the cavity in all its angles with iodoform gauze. All these advantages are offered by incision from the neck.

Two ways have been proposed for this purpose. In 1877, CHIENE, of Edinburgh, recommended to make an incision from the mastoid process down alongside the posterior border of the sterno-cleido-mastoid muscle and then to go bluntly down with finger and probe to the anterior aspect of the vertebral bodies. By dividing the deep fascia and retracting anteriorly the muscle with the complexity of vessels, the retro-pharyngeal space is quickly reached. BOÉCHAT[5], WATSON, CHEYNE[6], BURREL[7], of Boston, and SACCHI[8], have successfully tried this operation.

The second method has been advanced by BURCKHARDT[9], of Stuttgart, in 1888. He said: If one cuts down at a level with the larynx on the inner side of the sterno-cleido-mastoid muscle, through skin and platysma, the vessels of the thyroid gland are first encountered (a larger or smaller subcutaneous vein which may communicate with the thyroid vessels is to be caught between two artery-forceps, cut and ligated). Between them on the outer, and the larynx on the inner, side the inner border of the common carotid is quickly exposed by blunt dissection. As no branches are here given off from the main trunk, one may safely make, in the depth, an incision with the knife just at the side of the larynx,

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[5] *Bull. méd. de la Suisse romande*, 1880, No. 12.

[6] *Med. Times and Gazette*, 1881, p. 254.

[7] Transactions of the American Orthopedic Association, 1891, p. 163.

[8] *Gazz. degli ospitali*, 1892, No. 75; rep. in *Centralbl. f. Chir.*, 1892, p. 846.

[9] *Loc. cit.*

or rather the lower end of the pharynx, into the thickened tissue, which is generally found here in these cases on account of the neighboring purulent inflammation. If this incision is then enlarged by opening the branches of a slender dressing-forceps or similar instrument, the retro-pharyngeal space is fully and easily accessible.

BURCKHARDT illustrated this operation by the interesting histories of three cases which were thus successfully dealt with in 1886 and 1887. According to publications after him, in Europe, only KRAMER (one case) tried the operation to his fullest satisfaction[10].

As far as I was able to find, no mention has yet been made of this operation in American literature.

My personal experience with Burckhardt's incision has been gathered on four patients, whose histories I shall now state as briefly as possible.

CASE I. Man, 46, sick for two weeks with erysipelas of the nose, pharynx, and face, which had its origin in a small scratch-wound in one of the nostrils. Within the last four days the inflammation of the skin and mucous membrane had gradually subsided, but the fever had continually risen. Pneumonia of the right lower lobe was found. A continually increasing difficulty in swallowing was also noticed. Finally the patient was unable to swallow fluids. Every drop was regurgitated. When I saw the

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[10] *Loc. cit.* DE SAINT-GERMAIN also opened a retro-pharyngeal abscess with an incision in front of the sterno-cleido muscle. (*Revue des Maladies de l'Enfance*, 1888, p. 360.) There was, however, a swelling of "a small egg (hen's) size," where the incision was made. The abscess thus was not confined to the retro-visceral space any more; it had perforated. As mentioned above, such cases were excluded from the scope of this paper.

patient in consultation, October 10, 1888, temperature was above 104, pulse weak, 132, condition very critical. The finger pushed down alongside the posterior wall of the fauces just reached with its tip a soft, elastic swelling, which was painful on pressure. My colleague's diagnosis of retro-esophageal abscess was confirmed and immediate operation decided upon as an "indicatio vitalis," in spite of the well-developed inflammation of the lung. Under chloroform-narcosis Burckhardt's incision was made through the left lateral aspect of the neck. The inner border of the common carotid was easily reached and a large abscess evacuated by penetrating its wall with a grooved director under the guidance of the finger. No bare bone was detected. Irrigation; drainage; antiseptic moist dressing. The abscess evidently was a septic one caused by an infection of the prevertebral lymphatic glands with the coccus erysipelatis. Immediately after the operation the patient was able to swallow, and a few hours later he also partook of a semi-solid diet. But he remained feverish, with a weak and rapid pulse. He died, two days later, of heart-failure due to the pneumonia. He had been able to swallow with ease until his death.

Case II. George W., 4 years old, for several months afflicted with cervical spondylitis, had lately experienced some difficulty in respiration, especially when breathing through the nose; he snored when asleep, and always kept his mouth open. Voice thick. Admission to the German Hospital. On examination a swelling was seen on the posterior wall of the fauces, at a level with the uvula. It presented the lower circumference of a retro-pharyn-

geal abscess, which filled a great portion of the naso-pharynx. The finger, pushed up behind the soft palate, just reached the upper end. Should this tuberculous abscess be opened from the mouth? Could it be evacuated with the incision from the neck? Personally resolved to treat all these abscesses according to the same rules as tuberculous abscesses in other localities, I rejected the first plan, and made Burckhardt's incision on the left side of the neck, head being lowered, December 12, 1888. Without any special loss of blood the retro-visceral space was opened on the inner border of the common carotid. It was not infiltrated. As already stated, the abscess was behind the soft palate, thus occupying a much higher level than is usual. With great ease, but care, the index finger of the left hand was now gently pushed up between the posterior wall of the pharynx and spinal column to the seat of the abscess. With this finger in position, and the index finger of the right hand on the abscess-wall in the pharynx, fluctuation was distinctly felt. A slender curved dressing-forceps, introduced alongside the volar aspect of the left index finger, now penetrated the wall. Tuberculous pus escaped. A small spot of the body of about the fourth vertebra was found bare of periosteum. No sequestrum present. The cavity was now gently scraped with a long Volkmann's spoon, then wiped and dried with a sponge on a handle, and after sublimate irrigation syringed with a 10-per-cent. solution of iodoform-ether. A drain was introduced, and an antiseptic dressing applied. Traction on the head, with Glisson's sling over pulleys; upper end of bed

raised for countertraction. On the following day the little patient was doing very well, had no pain, no fever. He easily breathed through the nose. On changing the dressing, which had somewhat moved down on the following day, the drainage tube was found to have slipped out of the abscess. It was not reintroduced. The further history is of no special interest. The boy stayed in the hospital for six weeks, when the sinus had closed. He was discharged with a well-padded pasteboard-splint, which supported his head. A few weeks later the wound reopened. Patient was again admitted to the German Hospital, and the carious vertebral body scraped by Dr. GERSTER. Soon after the wound definitely closed. On October 9, 1889, patient was presented to the New York Surgical Society[11], and on October 28 to the Scientific Society of German Physicians. I then had intended, in order to maintain the present good result, to apply a Sayre's plaster-of-paris jacket, with jury-mast. The patient, however, was lost sight of.

A very similar case, also successfully operated according to Burckhardt's method, has been lately described by KRAMER.[12]

CASE III. GUSTAV S., 18 months old, with a tuberculous family-history, has a marked retro-pharyngeal abscess on the left side of the fauces; all the characteristic symptoms are present; cyanosis marked. Seen by me in consultation in the evening of March 12, 1892. Operation from without decided

[11] The report of this meeting has not been published in the *N. Y. Medical Journal*, as was the rule at that time.

[12] *Loc. cit.* This case was operated upon October 15, 1891; my own on December 12, 1888, as mentioned before.

upon, and performed the following morning. During the night child very restless. Some pus has escaped through the nose. Operation, under chloroform-narcosis and in recumbent posture, not as easy as usually experienced on account of continually impeded respiration and dense adhesions between the deeper tissues of the neck. In opening the retro-visceral space no pus escapes (this had been anticipated, as the pus had continually oozed out during the night, as well as during the course of the operation); but the sharp spoon, guided with due care, brings out a good deal of distinctly tuberculous granulations. Bone nowhere bare. Careful disinfection and iodoformization of the cavity; no irrigation on account of its direct communication with the fauces. A medium-sized drainage tube is introduced into the depth of the wound, around it strips of iodoform gauze are loosely packed. Dressing. (Respiration still very troublesome and intermittent. A silk thread is therefore pulled through the tongue and the parents are instructed to hold a wooden mouth-gauge between the teeth and pull the tongue out as long as necessary. It took a couple of hours before the respiration was normal again.) No extension of head. Perfect recovery within six weeks in spite of a severe pneumonia of the right lower lobe, which set in three days after the operation. Wound definitely closed on April 28. It did not open up to date. No stiffness of neck. In this case the external operation was still selected, in spite of the internal perforation.

Case IV. Mary E., 7 weeks old, was seen by me in consultation on September 13, 1892. There was

a marked retro-pharyngeal abscess on the right side, which off and on troubled the child's respiration, but still allowed her to nurse. Family history negative. Operation on the following day in Rose's posture and chloroform-narcosis. This time the tongue was at once secured by a silk thread and pulled forward by this means. The annoying difficulty in respiration experienced in the last operation was thus easily avoided. When the inner border of the common carotid had been exposed, and the artery held aside with the finger, the abscess bulged out into the wound. An incision was made with the knife and enlarged with the finger. A great amount of pus escaped. Vertebræ uninvolved. Disinfection, drainage, and dressing as before. Gauze-tampons removed on the sixth, tube on the thirteenth, day. Uninterrupted recovery. Wound definitely closed on October 19, five weeks after the operation.

These are all my cases of retro-pharyngeal abscess, Mr. Chairman, operated on by me according to Burckhardt's method. In every one I have been impressed with the comparative ease with which it could be performed even, as you have heard, in babies. In view of the possible dangers which may later set in, and the disadvantages which are connected with the incision of retro-pharyngeal abscesses through the mouth, I do, therefore, not hesitate to pronounce it *the duty* of the surgeon to-day to discard the old method and to let also the treatment of these abscesses benefit by the blessings of antiseptic surgery. I personally must confess that I would never operate on a retro-pharyngeal abscess any more by any other route than from the neck,

unless the symptoms were so urgent and the child so much run down as to render the narcosis too great a risk. But in that condition chloroform may be dispensed with. The patient, in his dazed condition, will not feel the knife. Cocaine might also be used. It will, of course, be in the hands of the attending physician never to allow his case to run to this extreme, but rather to make the diagnosis in due time. If one has reason to fear general narcosis in weak babies under one year, the direct pharyngeal incision has, of course, to be resorted to; also in those female patients with non-tuberculous, retro-pharyngeal abscess, where the parents or relatives are opposed to an external incision on account of the resulting scar on the neck.

Summing up, I beg to offer the following conclusions:

1. In cases of impeded respiration, the differential diagnosis of the affections in question should be made as early as possible by gentle digital exploration of the patient's fauces.

2. If retro-pharyngeal abscess is present it should be opened by an incision from outside and not through the mouth, except in weak babies under one year, who seem to be unable to stand general narcosis.

3. This is of especial importance in the tuberculous abscess, as digital exploration of the cavity can be made with leisure, and the proper antiseptic after-treatment applied as practiced in similar troubles in other localities of the body. Although this operation is especially designed for low-seated retro-pharyngeal abscesses, it can be successfully employed for those situated high up and even behind the uvula,

as shown by my second case and the case of KRAMER.

4. If a swallowed sharp, foreign body has perforated the pharyngeal or esophageal wall, this body may be extracted with the help of this incision before an abscess has been caused, or at least before it has spread too far (BURCKHARDT).

5. The operation is not difficult and presents no special dangers. It should be performed with the patient in Rose's posture.

6. It has yet to be determined which incision deserves preference, whether that behind the sternocleido muscle (CHIENE) or that in front of the same (BURCKHARDT).