

small plate of cork-wood, and with this instrument the nævus is punctured all over, after which magnesia usta, or oxide of zinc, is rubbed in the fresh puncture-wounds. From this mixing of red and white a rose-color ensues, which contrasts but slightly with the normal color of the surrounding integument.

It is always well to bear in mind, before any intense cauterizations are resorted to with Vienna paste, chloride of zinc, sulphuric acid, etc.—from which large gangrenous ulcerations and disfiguring cicatrices sometimes ensue—that many nævi in time disappear spontaneously, and at the utmost leave behind them a slightly redder-colored spot on the skin, which certainly disfigures less than the large, radiating, contracted eschars that result from the operations. I have established it as a rule for myself, not to treat surgically any cutaneous nævi which cannot easily be surrounded by two curved incisions, and the lips of the wound accurately united through the bloody suture.

The case is totally different with the subcutaneous erectile tumors, which, on the whole, are far more infrequent than teleangiectasis of the cutis. Through spontaneous rupture or slight injuries they may give rise to serious hæmorrhages that may endanger life, and their treatment should not be deferred on that account alone. In some instances it has, indeed, been possible by steady compression to cause such tumors to disappear, but for this method a great deal of time and patience is necessary, and, in addition, the presence of a firm, bony substratum; otherwise the attempt at compression will prove entirely fruitless. Formerly the ligature was principally employed in the removal of these subcutaneous capillary extuberations; a needle armed with a double ligature, or, still better, a narrow tape, was drawn through the base of the tumor, then tied in two sections at opposite points, and allowed to ulcerate its way through; of late, the galvano-caustic has rendered essential service in these cases. For this purpose several platinum wires are introduced into the base of the tumor in opposite directions, at a distance of two or three lines from each other, and brought to a white heat by the aid of the battery, by which coagulation of the blood, suppuration, ulceration, and finally healing, are achieved.

(2.) THROMBI IN THE SINUSES OF THE DURA MATER.—Many investigations have been made in this direction since the time *Virchow* developed and cultivated the study of the formation of thrombi, and the pathological condition in its signification upon the course of the disease has come to be more appreciated. Thus, *Gerhard* found thrombi in the sinuses of the brain seven times in the autopsies of ninety-six children, and all of those seven children died from profuse diarrhœa, attended by cyanosis, coma, and convulsions.

But there is the greatest difficulty in determining the ages of these thrombi. Whether a thrombus has formed before death, in the mortal agonies, or only after death, cannot always be decided. The cardinal points which will lead us to settle this question correctly are, the arrangement of the layers of the thrombi, their central softening, and their adhesion to the walls of the veins; whether they are of a yellow or red color is a matter of no such great importance. It seems, however, that they are not pathognomonic of the atrophy of children, for I have often missed them, and in other cases found red, fresh thrombi, which undoubtedly only originated after death. This condition, therefore, has but slight clinical importance.

CHAPTER IV.

DISEASES OF THE RESPIRATORY ORGANS.

A.—NASAL CAVITIES.

As the diseases of the mouth have already been spoken of in connection with those of the digestive apparatus, there remain only for consideration those of the nares. The method of examining the nares is a simple one, and offers but few difficulties, since it is limited entirely to an inspection or exploration, by the aid of a probe or catheter. *Wintrich* has found that the permeability of the nasal passages may be confirmed by percussing the larynx. When, the mouth being closed, percussion is performed over the larynx, the tympanic percussion-sound that is produced by it becomes dull if one of the nasal openings is closed, and still more decidedly flat when both nares are compressed. Now, if, by the closing and reopening one or both nares, the tympanic sound does not change in intensity, it may be regarded as proof that the affected nostril is occluded at some point higher up. But this method of examination can only be exercised in old children—those that will close the mouth when ordered to do so, and who willingly allow the nares to be compressed, and the larynx to be percussed. Such children will also snuffle in and out when so ordered, and the permeability of the nasal passages may in this manner be ascertained more conveniently than by percussing the larynx.

(1.) EPISTAXIS—BLEEDING OF THE NOSE.—Epistaxis, as, in fact, all hæmorrhages, is produced by a rupture of vessels; in this case, of the capillaries of the mucous membrane of the nose.

Etiology.—The causes are divisible into local and general. The local are injuries of all kinds, blows, contusions, lacerations, etc. Still,

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even here, the individual disposition is not to be lost sight of, for the various injuries produce entirely different effects, according to the existing disposition to bleed from the nose. A local causation is also found in the various forms of ulcerations of the mucous membrane. To the general causes, all conditions which are combined with stasis of the venous circulation belong, such as cardiac malformations, goitre, the so-called general plethora, pneumonia, and typhus fever, and particularly the diseases in which actual disturbances of the capillary system of vessels are superinduced, such as scorbutus and morbus maculosus, and diseases of the blood like chlorosis. Finally, vicarious hæmorrhages occur in girls at the time when menstruation should take place.

Symptoms.—The blood either makes its appearance in drops, as stillicidium sanguinis—the ordinary form—or it flows in a continuous stream, rhinorrhagia, a rare and exceptional form. As regards the quantity of blood lost, we are often unintentionally deceived by the relatives, for they forget that the child has bled into a vessel containing water, and, when they behold the dark red-colored water, imagine it to be all blood. Once, in a case of a boy nine years of age, who was reported to me as having daily lost “enormous quantities” of blood, I collected what flowed from his nose during thirty-five minutes (after which time the hæmorrhage ceased spontaneously), not quite one ounce of blood, a quantity that certainly ought to cause no great anxiety.

Children under three or four years very rarely suffer from epistaxis from general causes, but only in consequence of injuries or ulcerations, in which the hæmorrhage is never profuse. In older children all the above-mentioned causes are to be taken into consideration. In children laboring under febrile diseases, it occasionally happens that the blood flows backward into the pharynx and is swallowed, when hæmatemesis may occur, or black, and more or less bloody stools be voided. Usually, the bleeding does not last an hour; in exceptional cases, however, it may be protracted for half a day.

Its pathological signification is naturally very different, according to its severity and etiology. Epistaxis is to be regarded as a favorable phenomenon in all febrile affections, in venous congestion, and in expected menstruation; as unfavorable, and tending to aggravate the condition, in scorbutus and chlorosis.

Treatment.—From the preceding explanation, it follows that the treatment must be exceedingly variable. In scorbutus and chlorosis it must be arrested promptly. When occurring in the other states we have mentioned, the measures to be adopted will depend upon the profuseness of the flow, the frequency of the recurrence of the bleed-

ing, and the more or less anæmic appearance of the child. The best method of arresting the hæmorrhage is to introduce a few bits of ice, of the size of a pea, into the nares, and then to plug these up with a good-sized charpie tampon. The tamponing of the posterior nares through the mouth, by the aid of *Belloque's* tube, is very annoying to children, and should only be resorted to in extreme cases of scorbutus or chlorosis. Where no ice is to be had, it is very advantageous to dip the tampon in *liq. ferri sesquichlor.* The deligation of the upper and lower extremities, and the keeping of the arms elevated above the head, are popular old remedies.

That the primary causes always deserve a special consideration is, of itself, understood. In order to avoid repetitions, the student is referred, concerning their treatment, to their respective sections.

(2.) **CORYZA—RHINITIS—CATARRH.**—By coryza a catarrh of the mucous membranes, of one or both nares, is understood, in which affection the mucous membrane always appears reddened and swollen.

Symptoms.—The secretion poured out by the mucous membrane at first is clear and liquid, but after a few days becomes glairy and opaque, until it finally again assumes the properties of the normal nasal mucus. Its reaction is always decidedly alkaline, and the amount of soda it contains may increase so much as to produce a slight corrosive effect upon the upper lip and *alæ nasi*. These local signs, reddening and erosions, and the inflammation, are intensely aggravated by the constant wiping, which the nursery-maid does not always perform in the most tender manner. So long as the catarrh is limited to the nasal mucous membrane, it is generally unattended with fever, but when it implicates the frontal sinus, or the supramaxillary cavities, conditions which can only be ascertained in older children by inquiries, it becomes febrile, and is accompanied by severe pains in these cavities. When the catarrhal inflammation of the Schneiderian membrane extends to the conjunctiva, through the lachrymal canals, redness, pain, intolerance of light, in short, conjunctivitis catarrhalis, become superadded, and, when finally it passes along through the Eustachian tubes into the tympanum, tinnitus aurium, otitis, and dyscophosis, come on. In other cases, the catarrhal inflammation travels downward into the larynx, causing hoarseness and pain, and from thence into the bronchi, where it terminates in bronchitis capillaris in the pulmonary alveoli; or, lastly, the stomach and intestinal canal become involved, when loss of appetite and vomiting of large quantities of mucus, or slimy diarrhoea, will be superinduced.

In older children, these conditions, even when all the enumerated complications become superadded, are always devoid of danger; but, in the new-born child and nursling, a complete occlusion of the still-

narrow nares, by the tumefaction of the mucous membrane and the accumulation of the secretion, rapidly ensues. The usually closed mouth must now be constantly open, its cavity becomes dry, and the breathing loud and rattling. And if these children now attempt to nurse, or take the bottle, they experience great difficulty in breathing, and are obliged to forsake the breast and food, hence their nutrition rapidly suffers, and emaciation supervenes.

Occlusion of the choanæ by thrush-spores also occurs in young children who suffer from thrush of the mouth, causing severe dyspnoea.

Side by side with catarrhal coryza, various cachexiæ manifest themselves in the nasal passages. Thus there is a chronic, scrofulous, syphilitic coryza, and, in very rare instances, a coryza produced by a contagious mucous discharge, in which the secretion is of a totally different nature from simple catarrh; sometimes, even some of the bones are destroyed by necrosis. More will be said about this condition in connection with the respective dyscrasiæ.

Etiology.—Simple nasal catarrh occurs in a sporadic and epidemic form; the epidemic occurrence is induced by undue quantities of ozone in the air, or by mechanical and chemical adulterations of the same; for example, by dust, in the firing up of a stove unused for some time, etc. The liability also to become infectious, by a contaminated breath, is not to be ignored. The sporadic and very chronic cases, as a rule, are of a cachectic nature.

Treatment.—In the ordinary catarrhal form, there is no urgent indication for interference; still it is well to take the precaution to keep the children in a uniform temperature, and to avoid sudden and extreme cooling of the skin, cold affusions, and cold baths. The various abortive treatments that have been tried of late, by injections of solutions of zinc, alum, and morphia, in young children who are unable to blow them out again, and otherwise liable to swallow them, are altogether inadmissible. The nostrils of nurslings, thus occluded by swelling and secretion, must be made permeable by the use of olive-oil, introduced by a small brush at least one inch, and repeated three or four times daily; this procedure will be all the more successful if they sneeze each time, and thus expel the hardened mucous crusts. The cachectic coryza of course does not yield to a local treatment, but must be removed by internal antidyscrasiac remedies. Cod-liver oil is the most effective remedy for the scrofulous form, and a mercurial treatment will be required for the syphilitic.

(3.) **ADVENTITIOUS GROWTHS IN THE NOSE.**—Polypi are the only morbid growths; they only occur in older children; and with them they are much rarer than in adults. The youngest child in whom I

twisted off a fibrous polypus was four years old. By polypi we understand two kinds of tumors, which differ considerably from each other. Soft polypi are cystic gelatinous excrescences upon the mucous membrane; they usually spring from the outer wall of the nares, and, on account of their softness, are called cystic or mucous polypi. The hard polypi do not spring from the mucous membrane, but from the submucous tissue, or from the perichondrium. They consist of connective tissue, are of a rosy-red color, and, on account of their hardness, have been called fibrous or sarcomatous polypi. Both kinds are pediculated, and enlarge themselves into oblong tumors, corresponding to the shape of the nares. The fibrous polypi may attain to so considerable a size, especially backward, as to hang down into the pharynx, and embarrass deglutition and even respiration.

Etiology.—According to the text-books, polypi originate from chronic catarrh. This theory rests upon a feeble foundation, and has many exceptions. Their rare occurrence in children also speaks against it, for in these especially the mucous secretion is much greater, even in the physiological state, than in adults. In the few instances that I have had the opportunity of observing in children, no chronic catarrh preceded them, and no peculiar etiological reason whatever could be discovered.

Symptoms.—So long as the polypi are small, and the nares not blocked up, they seem to give rise to but few, or no embarrassments. But when impermeability of the nasal passages has been produced, then the patients lose the sense of smell, the voice becomes snuffling, the mouth is constantly kept open, giving them a silly appearance, and they are continually but uselessly seeking to free the nasal passage by blowing the nose. Now and then one of these cystic polypi, through the violent snuffling and pressure, will burst, the contents be discharged, and the air once more pass freely through the nares. But, as cystic polypi usually exist in numbers, the smaller ones rapidly follow in growth, occlude the passage anew, and the old condition is reproduced. Firm sarcomatous polypi are also capable of blocking up the lachrymal canal, and the Eustachian tube, and thus produce stillicidium lachrymarum and hardness of hearing. In cystic polypi this is not observed. In both forms, a mucous or purulent coryza, and even ulceration of the mucous membrane, may take place, as a result of which small hæmorrhages also occur. The diagnosis is very easy; ordinarily the polypi reach the margin of the nares, or even protrude. When this is not the case, the impermeability of the cavity in question may be readily ascertained by compressing the opposite one, and causing the patient to blow his nose. From the presence of foreign substances, polypi are distinguished by

the slowness of their growth, by slight painfulness, and their chronic course. Cystic polypi very frequently return; fibrous polypi, when thoroughly removed, generally do not.

Treatment.—Internal remedies, as well as the local application of astringents, have proved to be totally useless; the only effectual treatment consists in twisting off and eradicating the polypus, care being taken to grasp it close to its origin, from the mucous membrane. A long, slender, serrated forceps is the best instrument for this purpose.

For the removal of fibrous polypi with broad pedicles, *Middel-dorff's* galvano-caustic is very well adapted. The hæmorrhage produced by the evulsion of the polypus is readily arrested by injections of cold water, and the introducing of pieces of ice. After the removal of cystic polypi, dossil of charpie, smeared with red-precipitate ointment, should be introduced into the nares for several weeks, to prevent its return.

(4.) FOREIGN BODIES IN THE NOSE.—Children from two to eight years of age very frequently introduce extraneous substances into the nose. The most common are cherry-pits, small round pebbles, glass beads, peas, beans, and paper balls. In addition, insects, such as flies and bugs, gain an entrance into the nose while children are asleep, or a round-worm strays (probably during a fit of vomiting) into the nose. Generally, as soon as a child introduces a foreign body into the nose, it straightway tries to remove it by boring with the finger, and thereby only pushes it into the choanæ, where it finally becomes lodged. The irritation that is produced by these foreign bodies varies according to their composition. If some part of the surface is rough, painful swelling and coryza will soon be induced; beans and peas produce the greatest amount of irritation, they soon swell up in the moist warm cavity, and may even begin to sprout there. A remarkable case of this kind is recorded by *Boyer*, in which a pea germinated in the nose of a child and bore ten or twelve roots, one of which grew to three and a quarter inches in length.

The nose becomes very painful, and, without chloroform, no thorough examination can be made. The termination is most favorable in those instances where paper balls have been introduced into the nose; they soon soften and are discharged piecemeal. However, cases are also said to have occurred in which the foreign bodies produced severe irritation, delirium, meningitis, and death. The condition called rhinoliths, in which successive deposits of inorganic salts take place around the foreign body, sometimes met with in the adult, is, so far as I know, unknown in the Pædiatrica.

Treatment.—A painless and yet in many instances a successfu

remedy is, the act of sneezing, which may be excited by a pinch of snuff, used in the sound nostril. Even when the extraneous body is not entirely expelled, it will nevertheless always be found to have been propelled forward, and somewhat loosened. As soon as it becomes visible, it may be extracted with a very fine dentated forceps or *David's* scoop. Soft bodies may also be crushed with a strong dentated forceps, when the single pieces will soon be expelled. The attempts at extraction should never be persevered in too long, because very severe swelling of the mucous membrane will thereby be produced. They may be repeated again in a few days. Under no circumstances is the nose to be split open hastily, as recommended by *Dif-fenbach*; the operation should be deferred until critical cerebral symptoms render it necessary, which, on the whole, very rarely occur.

B.—LARYNX AND TRACHEA.

(1.) CROUP (*Laryngitis* and *Tracheitis Maligna*).—It is not easy to find, for one and the same disease, so many and different appellations as for croup. The most current are: *Cynanche trachealis*; *angina laryngea exudatoria, sive polyposa, sive membranacea, sive strepitosa-perfida-mortalis*; *laryngea tracheitis exudativa, pharyngo-laryngitis pseudomembranacea*; *morbus strangulatorius*; *suffocatio stridula*; *membranous quinsy*. The shortest of all of these titles, croup, has received the preference, and in the Scotch vernacular properly expresses a white membrane found upon the tip of the tongue of sick chickens, in the disease called "pip."

In ancient times croup seems to have occurred very rarely; for not even one characteristic description can be found in the writings of the old physicians, whose accurate powers of observation no one will presume to question. *Baillou*, in 1576, according to *Fredrich*, is the first who mentions having undertaken a dissection of croup. The literature of croup received a great accession through the proclaimed *concoirs* of Napoleon I., occasioned by the rapid death of his nephew, the son of the then King of Holland, who fell a victim to this disease in 1807. Eighty-three dissertations on croup were sent in. *Jurine*, of Geneva, and *Albers*, of Bremen, received prizes, and many others were honorably mentioned; none, however, knew of any remedy by which the mortality of the disease could in any way be ameliorated. As Napoleon was chiefly concerned about the latter, and not in the enriching of the symptomatology or the pathological anatomy of croup, the writings of the entire *concoirs* must therefore be regarded as having disappointed him.

Pathological Anatomy.—Croup consists of a certain group of symptoms, which in different individuals always manifest themselves in the