B.—*ARTERIES AND VEINS.*

Diseases of the arteries never occur in children, and the results of atheromatous affections of the arteries, which are scarcely ever missed in the autopsies of older individuals, are never observed in those of the former. The only condition of which some notice ought to be taken here is, an anomalous termination of the radial arteries, which, in some seriously sick or anæmic children, may be the fault of having caused an unfavorable prognosis to be given. Hence, in cases of remarkable smallness, or complete absence of the radial pulse, it is always necessary to ascertain the condition of other arteries, the carotids and temporal, before a conclusion can be formed upon the fulness or emptiness of the vascular system. The erectile tumors, as a stepping-stone in the study of the diseases of the veins, may find a place here.

(1.) Erectile Tumors (*Nævus Vasculosus, Arterial Teleangiectasis*).—**Symptoms.**—By erectile tumors we understand a dilatation of the capillaries, a condition which occurs particularly on the face, eyelids, lips, and neck. This disease of the capillary vessels sometimes affects those of the cutis, sometimes those of the subcutaneous cellular tissue, and then again both, at the same time, to a greater or less extent. In the first case, we have a red elevation of the integument, of the color, and often, also, of the shape of a raspberry; in the latter, a slightly doughy tumor, the integument covering which is either in a perfectly normal condition, or likewise permeated by dilated vessels. Generally, these vascular dilatations are congenital; their growth, however, does not always progress in exact relation to the development of the entire organism, but surpasses it considerably, so that a small teleangiectasis, at birth only of the size of a pin's head, at the end of a year may have attained to that of a pea, or even of a hazel-nut. This fact is universally known; on the other hand, most physicians are not sufficiently aware of the spontaneous termination of these erectile tumors and vascular moles. The general opinion is that, if no operative assistance is rendered, they will continue to grow, and attain to serious dimensions, and yet the reason why they are so rarely met with in adults, and comparatively often in children, has never been satisfactorily explained. The true reason for this circumstance is, that most of them grow smaller spontaneously, and ultimately disappear altogether, although nothing, in the shape of an operative procedure, had been resorted to against them. This spontaneous atrophy, after the manner of infantile cutaneous warts, sufficiently distinguishes nævus vasculosus from malignant neoplasms.

Erectile tumors, the integument of which is almost normal, are

easily diagnosticated by the facts that they disappear under the pressure of the finger, become tenser and larger during crying and pressing, sometimes pulsate slightly, and on auscultation allow a buzzing noise to be heard.

Pathological Anatomy.—When such a tumor is cut open on the cadaver, it collapses very much, and gives exit to a tolerable quantity of red serum. On closer investigation it is seen to be composed of merely dilated, excavated capillaries, which freely communicate with each other, and thus present a spongy formation. This is also the reason why erectile tumors are materially reduced in size by compression. If it is still further examined microscopically, there will be found numerous longitudinal and transverse sections of capillaries, and occasionally it has the appearance of small, pouch-like excavations in the vessels, as if the capillaries terminated with bulbous dilatation. Between these vessels perfectly normal connective tissue is seen.

Treatment.—The treatment of cutaneous nævi is different from that of erectile tumors of the subcutaneous cellular tissue. The raspberry-colored spots of the skin on the forehead, eyelids, etc., are best, and in the simplest manner, removed by vaccination. For this purpose the nævus is punctured ten to twenty times with a needle dipped in vaccine matter, when a few drops of blood will always escape, and if nothing further is done the operation will prove entirely fruitless, for the vaccine lymph has oozed out with the blood. But if these punctures are quietly allowed to drain off the blood, then cleansed with a little cold water, and once more covered with a layer of vaccine matter, all, or nearly all of the punctures will take. On the fifth day the nævus displays many elevated bluish-red pustules, which soon become confluent, and begin to dry up by the eighth or ninth day; after the crust has fallen off, a bluish-red cicatrix will at first remain behind, which subsequently fades very much.* If a child that has already been vaccinated comes under treatment for nævus, this procedure, of course, will prove entirely useless; in such a case the nævus may be made to disappear entirely, or, at least, be cut up into single smaller ones, by producing deep, penetrating pustules, by the aid of a plaster composed of one part of tart. stibiat. and three of beeswax, smeared upon a piece of linen and worn for four or six days, at the end of which time small ulcers will have formed, which heal by granulation. The remnants of the nævus may again be covered with the plaster without the least detriment. Large flat nævi may also be made less noticeable by tattooing. Ten or twelve needles are thrust through a

* Dr. Loines informs me that he has cured many nævi by vaccination, and that the phenomena, in the absence of complications by violence, are almost identical with those of ordinary primary infantile vaccination.—Tr.

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 tympanitic 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 tympanitic 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,