A
TABULAR VIEW
OF THE
SEAT OF TUBERCLE,

IN ONE HUNDRED AND EIGHTY CASES OF TUBERCLE OF THE
LUNGS IN CHILDREN,

WITH
REMARKS ON PULMONARY PHTHISIS IN THE YOUNG SUBJECT.

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IN the following remarks I propose to indicate a few of the peculiarities which distinguish infantile consumption from the phthisis of adults, rather than to give any detailed history of phthisis as it occurs in the young subject. To attempt anything like a complete description of phthisis in children would occupy a much greater portion of the valuable time of this Society than I feel entitled to do.

The tabular analysis of the seat of tubercular deposit, which follows this paper, comprises 180 cases of thoracic tubercle in children: of these, 112 were observed consecutively and in the same year, at the Children's Hospital, Paris. They embrace all the cases of tubercular disease amongst the boys, and were noted down carefully, for the purpose of furnishing data for the history of pulmonary consumption in children. The remaining 68 cases were observed at various periods, and are not, therefore, of the same value in a statistical point of view.

The main character which distinguishes the phthisis of children from that of adults is this,—in children, the tubercular deposit occupies a much larger surface of the lung, is more rapidly secreted, and is complicated with tubercular disease of other organs more frequently than in the adult. Hence children often sink under phthisis before the complaint has arrived at its third stage; while, on the other hand, the modifications produced by an extensive diffusion of tubercular matter often render the diagnosis of the disease obscure and difficult. In addition to this character we have the peculiarities occasionally induced by excessive tuberculization of the bronchial glands, giving rise to bronchial phthisis, a form of disease altogether confined to the child.

The chief varieties under which tubercular deposit is found in the lungs of the young subject are those of miliary tubercle, yellow infiltration, and crude tubercle.

Miliary Tubercles.—These present no peculiarity worthy of notice; they exist more frequently than any other form of tubercle, either alone or in conjunction with other varieties of tubercular deposit, and are more abundant in the upper lobes than elsewhere.

Yellow Infiltration.—This form is chiefly found in children under three years of age, and is generally confined to one side of the chest, occupying a considerable portion of the lobe or lobes in which it is situate.

Tubercle.—Crude tubercle in the child, as in the

adult, more frequently occupies the superior lobes than any other part of the lung. The left side is more frequently the seat of tubercle than the right. Of the 112 cases, only 11 are noted where the tubercular matter was confined to one side of the chest, and of these the left lung was the seat of tubercular matter in eight cases ; the right lung in three. It has been asserted by many writers that in children the bronchial glands are more frequently tubercular than even the lungs. This is an error which I once shared myself, from drawing conclusions from a limited number of cases. In the 112 cases alluded to, the tubercular deposit was confined to the bronchial glands in 12 cases ; to the pulmonary tissue in 12. In the 68 cases, however, which form the second portion of the Table, we find six cases in which the bronchial glands alone were tubercular, and one where the deposit was confined to the lung ; but as I have already observed, these 68 cases were taken at hazard from a large number of scattered observations. It may here be remarked that three cases were noted of the existence of tubercle in the cavities of the head or abdomen, without any trace of tubercular deposit in the chest : in one, the matter was confined to the mesenteric glands ; in a second, to the brain and mesenteric glands ; in a third, to the mesenteric and inguinal glands. I mention this as a proof that M. Louis' law does not extend to children, a fact which, I believe, I was the first to point out, several years since.

Caverns.—Softened tubercles, or caverns, existed

in 31 of the 112 cases, or in something more than one-fourth. The cavity occupied the *right* side of the chest in 12 cases ; the *left* side in 11 ; and *both* sides in 8 cases. The superior lobes were affected in 18 cases ; the inferior in 8 ; and both together in 4. But here an important modification is produced, according to the age of the child, giving rise to a circumstance which should guide the practitioner; whenever he seeks to determine the existence of cavern in young children. Experience proves that in children under five years of age the cavernous excavation is generally seated in the lower or middle lobes, and is almost always confined to one side of the chest. Thus in 11 cases of children under five years of age, affected with cavern, we find the following distribution :—

Age.	Seat of Cavern.
2 years	- Summit of right lung.
2 „	- Middle lobe of right lung.
5 „	- Inferior lobe of right lung.
2 „	- Upper part of left lung.
3 „	- Middle of left lung.
3 „	- Middle lobe of right lung.
2 „	- Lower lobe of left lung.
2 „	- Lower lobe of left lung.
2 „	- Lower lobe of left lung.
4 „	- Upper and lower lobes on both sides.
4 „	- Summit of right lung.

Here we find only three cases out of eleven in which the cavern was seated in the superior lobe,

and only one case where it occupied both sides of the chest. As the child approaches the age of twelve or fourteen years, the cavern occupies the upper lobes, and is often found in both lungs, as in the adult.

In children, then, we meet with two varieties of cavern; the one resembling that which occurs in adults, the other peculiar to the young subject. The latter variety is produced by the process of softening taking place in the midst of yellow infiltration, and is chiefly confined to children under three years of age. The whole of a lobe, or a considerable portion of the lung, is converted into a mass of infiltrated tubercular matter, in the centre of which we find a large anfractuous cavity, lined with softened tubercle. In some other cases we have a number of small irregular cavities disseminated through the mass of infiltration, or numerous caverns, not larger than peas or nuts, separated by intervals of healthy lung, but communicating with each other.

Complications.—It has been already remarked that the general diffusion of tubercular matter forms a striking characteristic of phthisis in children. This will be rendered more evident by a comparison of some of M. Louis' results with those deducible from my Table. In 358 cases of phthisis in adults, M. Louis mentions the existence of tubercular matter in the brain or its membranes only once. In the bronchial glands, tubercles were found in about one-fifth of the cases; in the mesenteric glands, in one-fifth; in the liver, only twice; in the kidneys, five times in 170 cases: on the other hand, ulceration

of the larynx existed in one-fourth,—ulceration of the bowels in five-sixths of the cases.

The history of phthisis in children presents us with very different results. The brain was affected in one-ninth of the cases ; the bronchial glands, in 100 out of 112 ; the mesenteric glands, in one-half ; the liver, in one-ninth ; the kidneys, in one-eighteenth ; but ulceration of the larynx occurred only once ; ulceration of the bowels, sixteen times in the 112 cases.

Symptoms.—In describing the symptoms of pulmonary phthisis in children, it is necessary to distinguish two forms of the disease. In one, which generally occurs in subjects of from ten to fourteen years of age, we find nearly the same lesions which characterise phthisis in adults, and the same series of symptoms. To this form I shall not recur. In younger children, when the principal lesion of the lungs consists in the deposit of miliary or grey granulations, of yellow infiltration, with the anfractuous caverns in the middle or lower lobes already alluded to. Where the other cavities of the body are, more or less, affected by the tubercular deposit, we have several peculiarities worthy of notice, and a modification of symptoms which often renders the diagnosis of the disease extremely difficult.

In cases of the kind now under consideration, the complaint is commonly acute from the commencement, and is accompanied by various signs of the tubercular diathesis. The child has irregular accesses of fever, with heat of skin, acceleration of

the pulse, and slight flushing of the cheeks, while the rest of the face is pale and haggard. The tongue is often furred and red at the edges ; the abdomen sometimes tumid, and the bowels irregular ; the child may complain of head-ache and want of sleep ; the appetite fails, and emaciation soon sets in. The patient is now seized with a small, short, dry cough, accompanied by oppression and acceleration of the breathing ; there is no expectoration ; on examining the chest, the physical signs are few and uncertain. When the miliary tubercles, or granulations, are sufficiently numerous and collected in the upper lobes, we may perceive a certain roughness in the respiratory murmur, and some prolongation of the expiratory sound ; but these signs are frequently masked, either by the existence of other lesions in the chest, or by the tubercular deposit being seated in the middle or lower lobes. The presence of tubercular infiltration is indicated by feebleness, or absence of the respiratory murmur, with some dullness on percussion ; but these signs are common to chronic pneumonia.

As the disease advances the cough becomes more severe and constant ; the oppression of breathing is greater ; and when the tubercles or infiltrated masses begin to soften, we have more positive signs of the existence of cavities in the lung. The physical signs, however, are rarely as well-marked as in the adult, and the young child frequently dies before the disease has made further progress, and before the practitioner has been able to decide whether the lung be

actually the seat of cavern or not. The cause of this difference between the phthisis of adults and of children has already been alluded to ; in the latter, the tubercular matter is widely diffused, and has implicated many important viscera ; in the brain, it may excite hydrocephalus or meningitis ; under the serous membrane of the chest, pleurisy ; in the abdomen, peritonitis ; in the intestines, tubercular ulceration. These complications rapidly undermine the resisting power of the little patient ; diarrhœa sets in, and death ensues long before the period at which a fatal termination takes place in the adult. Should the patient, however, survive for any length of time, the complaint assumes a chronic character, and, with certain exceptions, resembles the pulmonary affection of adults. Chronic phthisis, in children of more advanced years than those of whom I have now spoken, presents so many points of resemblance to the same disease in the full-grown subject, that I shall not dwell on it, but pass to the consideration of *caverns*.

When the tubercular cavities occupy the same seat as in the adult, and are the result of chronic disease, they are readily distinguished by the ordinary physical signs, viz. dullness on percussion, cavernous respiration, pectoriloquy, and large mucous *râle*, or gurgling.

In children under five years of age these signs are very frequently wanting. It has been already observed that the middle and inferior lobes were the seat of the cavity in eight out of eleven cases.

of cavern occurring in children under five years. Whether this absence of cavernous signs depends on the seat of the cavity, on its anfractuous formation, or (as MM. Rilliet and Barthez have suggested) in the small calibre of the bronchial tubes in very young children, it is a circumstance worthy of note, and one which has frequently presented itself to observation. The signs of cavern may also be modified by the existence of enlarged bronchial glands; but the consideration of this point may be deferred until we come to speak of bronchial phthisis.

The *rational* symptoms of infantile consumption, also, present certain modifications, which I shall endeavour to enumerate as briefly as possible.

Cough.—This is one of the most constant symptoms; yet it is occasionally absent, or so trifling as hardly to attract attention during life. The characters of the cough are very variable: it may be dry, hard and short, or moist and soft; occasionally it occurs in paroxysms which bear considerable resemblance to those of hooping-cough, and in such cases there is much reason to apprehend that the paroxysmal nature of the cough depends on enlargement of the bronchial glands.

Respiration.—In the early stages of the disease the respiration is seldom accelerated; but as it advances, and the tubercular deposit becomes more copious, the respiration generally exceeds 40, and sometimes reaches 80, in the minute. The quickness of respiration and the difficulty of breathing may depend either on the presence of tubercular matter in the lungs, or

on the various complications which attend the primary affection. In chronic phthisis the respiration is seldom much affected ; in the chronic form, or when pneumonia is present, it follows the various stages of the disease, increasing with the lesion of the lungs, or becoming more free as the pulmonary tissue acquires a greater degree of permeability. The dyspnœa accompanying enlarged bronchial glands is altogether peculiar, and will be noticed apart.

Expectoration.—In adults the quality and character of the sputa furnish valuable indications of the nature of pulmonary disease. In the child such is not the case. Infants and children under five years of age hardly ever expectorate. They swallow everything that comes up into the mouth from the lungs. I have related, in another place, a very striking example of this fact. A child, two years old, died suddenly, from the rupture of a blood-vessel which traversed a cavern in the right lung. A very small quantity of blood had been discharged through the mouth, for the child had swallowed the greater part of it, and after death the stomach and duodenum were found full of enormous clots of blood, which were literally moulded on their surfaces. In children above five years of age we seldom observe the round, large, yellow sputa, or the mucus tinged with blood, which are seen in the phthisis of adults. The *débris* of tubercular matter rarely ever exists in the sputa of children : the expectorated matter is fluid, flattened, sero-mucous, or muco-purulent.

Hæmoptysis.—According to M. Louis, hæmop-

tysis occurs in two-thirds of the cases of adults labouring under phthisis. In children hæmoptysis is an exceedingly rare symptom. Sir James Clark says, "I do not remember to have met with any case in which it was present;" neither did MM. Rilliet and Barthez observe a single example in the numerous cases which came under their observation. I have been either more fortunate or more accurate. In the 112 cases hæmoptysis was observed five times, and a few other cases were noted, in which spitting of blood was said to have occurred, previous to the child's admission into hospital. The quantity of blood expectorated may vary from the few striæ which tinge the sputa to several ounces. In two cases it was sufficiently abundant to cause sudden death. The effusion of blood in considerable quantity may arise from pulmonary apoplexy, from rupture of a vessel traversing a cavity, or from perforation of one of the large blood-vessels of the chest by an enlarged bronchial gland. The age of the patient seems to have some influence in the production of this symptom; all the children, in whom spitting of blood occurred, were more than nine years of age.

Hectic fever.—The symptoms which constitute hectic fever in adults are seldom present together in any marked degree, except in children near the age of puberty. The evening exacerbations, night sweats, acceleration of pulse and hectic flush, are oftener replaced by emaciation, loss of strength, and paleness of the skin. In adults, hectic fever is generally an attendant on caverns; in children the analogous

symptoms often appear long before the tubercles have passed into the stage of suppuration.

Diagnosis.—Allusion has already been made to the difficulty of diagnosis in many cases of infantile consumption. When the tubercular deposit is equally disseminated in both lungs, and the disease assumes the acute character, the medical attendant will often be compelled to wait and observe the progress of the complaint before he can distinguish it from lobular pneumonia; and, even then, he will too frequently find cause for hesitation and doubt. The chief question to be decided is, whether the febrile symptoms, cough, &c. depend on simple pneumonia, or on the more insidious and dangerous form accompanied by tubercle or tubercular infiltration. This is a question which must often present itself to the practitioner. To examine it satisfactorily would lead me into details much beyond the limits which I have assigned to this paper. The main points of distinction between the two forms of disease have been clearly pointed out by MM. Rilliet and Barthez, and are,—1st. Their progress and duration: lobular pneumonia generally extends to the neighbouring portion of the lung in a few days, and its physical signs become more positive, while those of tubercle continue stationary and unchanged for a much longer period. 2nd. The period at which bronchial respiration occurs: in simple pneumonia at an early stage; in tubercle at a more advanced one. 3rd. The seat of the bronchial respiration: in tubercular disease very frequently at the summit of the lungs; in lobu-

lar pneumonia more often at the middle or lower portions.

Finally, as MM. Rilliet and Barthez have observed, we must not overlook “ the influence exercised by the various *râles* which accompany bronchitis, and so often mask the signs of tubercle. These *râles* render obscure or altogether conceal the symptoms of granulations and miliary tubercles, by rendering it impossible to distinguish the roughness of the respiratory murmur or the prolonged expiration ; they also conceal the absence of the respiratory sound in tubercular infiltration ; they become confounded with the moist *râles* indicative of cavern, or mask the bronchial respiration of pneumonia. In fine, when the bronchial tubes are dilated, or the bronchial glands considerably enlarged, they may acquire a peculiar bronchial tone, or be scarcely distinguishable from the gurgling of a cavern.”

Children of weakly constitutions, who have been long subject to chronic disease and worn down by diarrhœa, are often attacked towards the close of life by a peculiar form of pneumonia. This variety bears a very close resemblance to chronic phthisis, and the diagnosis must, in all cases, be doubtful. The one disease is, however, just as fatal as the other.

Bronchial phthisis.—The bronchial glands are, as has been shown, involved in a great majority of cases of infantile consumption. They were more or less tuberculated in one hundred out of one hundred and twelve cases. In a few of these cases only were the glands sufficiently enlarged to produce symptoms

through their mechanical effects, or by communicating with caverns in the lungs and the bronchi, and to such cases the term bronchial phthisis should be confined. Understood thus, this form of phthisis is peculiar to children, and attended with very characteristic symptoms; but it is not, as some writers assert, of frequent occurrence.

The enlarged bronchial glands may act mechanically on the neighbouring organs contained in the chest, or they may perforate them. Hence a variety of symptoms, depending on the position or function of the injured part.

The aorta and pulmonary artery, the vena cava, or the pulmonary veins, may be compressed by the tuberculated glands, and the flow of blood more or less impeded. M. Tonellé has related a case in which the superior cava was completely obstructed, and I have seen one where the pulmonary artery was perfectly flattened between two enormous glands. From the compression of vessels may arise pulmonary apoplexy, fatal hæmorrhage, effusions of serum, or symptoms closely resembling those of organic disease of the heart. The trachea, bronchial tubes, and lungs, may be compressed, and in such cases the symptoms will vary considerably, according to the seat and extent of the mechanical lesion. When the ganglions act on the lower portion of the trachea, MM. Rilliet and Barthez have noticed the existence of a loud, sonorous ronchus, which persists for a considerable length of time. In other cases, the pressure on the large bronchial tubes

causes more or less feebleness of the respiratory murmur, which is remarkable in being intermittent.

Pressure on the eighth pair of nerves or its branches is often attended by very peculiar modifications of the voice and cough. The former is hoarse or occasionally subdued, and even lost; or the hoarseness and loss of voice may alternate. The cough, also, is frequently hoarse, or occurs in fits which bear a close resemblance to those of whooping-cough, but are not followed by vomiting; or the fits may simulate accesses of asthma, with great oppression of breathing, anxiety, agitation, congestion of the head, and cold, viscid sweats.

The enlarged or softened glands give rise to another order of symptoms, by perforation of the neighbouring parts. Thus fatal hæmorrhage may arise from perforation of the pulmonary artery; pneumo-thorax from perforation of the lung; difficulty of deglutition and accesses of cough on swallowing from perforation of the œsophagus; but we should observe that these symptoms may equally depend on the presence of tubercular matter or of a cavern in the lungs.

The *diagnosis* of this form of phthisis in children must be founded on the preceding peculiarities in the progress of the case and the history of symptoms. Whenever a child presents several of the rational symptoms of consumption, without our being able to detect any physical signs of the presence of tubercles in the lungs or abdomen, we have good reason to suspect that the bronchial glands are

tuberculated. As long as the case continues to present this simple aspect we cannot go beyond suspicion : but it rarely happens that the glands acquire a considerable degree of development, without acting on the surrounding parts or tissues. As these become successively involved, we have a series of varying symptoms which could not arise from any other source. The eyelids become œdematous, and in proportion to the degree of pressure on the vena cava, the œdema extends to the whole of the face, which is sometimes pale, sometimes tinged with venous injection. This œdema will appear and disappear several times during the course of the disease. The cough suddenly changes its character, and occurs in fits, like those of whooping-cough ; the voice gets hoarse, and for days may be altogether lost ; fits of asthma or of suffocation, as if the heart were diseased, occur. On examining the chest, we hear a loud sonorous ronchus, which persists for a length of time, and then disappears, or is replaced by other *râles* of an anomalous character. When these symptoms are superadded to the rational signs of phthisis, we can have little hesitation in deciding that they arise from tubercular enlargement of the bronchial glands.

Treatment.—Upon this important point I regret to say that I have nothing to offer ; in the child, as in the adult, our treatment is nearly reduced to a palliation of the symptoms. The method of treatment, by emetics, should not be adopted in children, lest irritation of the abdominal viscera hasten the

deposit of tubercle in the abdomen, to which the patients are, already, too prone. Counter-irritation to the chest must be carefully regulated, and cannot be pushed as far as in the adult; and during the acute stage, the administration of tonics must be watched with the greatest attention.

Although the deposit of tubercular matter takes place, under *unfavourable* circumstances, more quickly than in the adult, and often leads to death in a more rapid manner, yet I believe that under *favourable* circumstances of change of climate, attention to hygiène, &c., we have a much greater chance of arresting the progress of incipient tubercle in the child, and thus, perhaps, of obtaining a permanent cure. Hence there is much encouragement for the early adoption of such measures as experience has sanctioned; and I am strongly inclined to think that if they were more frequently had recourse to, on the occurrence of the first signs of a tubercular affection in children, we should often have the satisfaction of seeing our efforts crowned with success.

Tabular View of the Seat of Tubercle in 180 Cases of Tubercle of the Lungs in Children (all Boys).

Name.	Age.	Seat of Tubercular Deposit.
1. Fessing.	4	Tubercles in the cerebrum, cerebellum, lungs, pleura, bronchial glands, liver, spleen, mesenteric and hepatic glands.
2. Jacquenot.	2	Pulmonary granulations, without tubercles; chronic pneumonia.

Name.	Age.	Seat of Tubercular Deposit.
3. Visil.	3	A tubercular mass in the inferior lobe of the right lung, with some granulations in other parts of the lungs, and of gangrene of the mouth.
4. Jauny.	11	Tubercular masses at the summit of both lungs; tubercles in the bronchial glands.
5. Mativié.	9	Miliary tubercles in pia mater, pleura, lungs, bronchial glands and spleen. Died of meningitis.
6. Noël.	15	Tubercles in the bronchial glands only.
7. Desportes.	6	Cretaceous tubercles in the lungs. Died of cholera.
8. Bastard.	14	Cretaceous tubercles in the lungs and bronchial glands; cicatrix of an old cavern. Died of pericarditis.
9. Vernier.	7	Tubercles in the left lung, in the pleura, bronchial glands, and spleen. Died of pleurisy.
10. Montel.	4	Cavern at the summit of left lung; tubercles in the pleura, bronchial glands, liver, spleen, and kidneys.
11. Lafitte.	6	Tubercular granulations in the lungs, pleura, liver, spleen, and kidneys; tubercles in bronchial and mesenteric glands; tubercular ulceration of intestines.
12. Billiet.	2	Tubercles in lungs, pleura, liver, spleen, bronchial and mesenteric glands; ulceration of intestines.
13. Lejeune.	14	Tubercular granulations in the pia mater, lungs, and pleura.
14. Chapelle.	7	Two enormous caverns in the superior lobes on both sides of the chest; crude tubercles in various parts of the lungs and bronchial glands; in liver and spleen, mesenteric and abdominal ganglia; tubercular mass in right kidney; ulceration of intestines.
15. Krug.	7	Sub-pleural granulations; two or three bronchial glands tubercular. Died of phlebitis.
16. Niot.	4	Tubercles in lungs, bronchial and mesenteric glands, and spleen. Died of gangrene of lung.
17. Chevalier.	4	Sub-pleural granulations on left side of chest; no tubercular deposit elsewhere. Died of typhoid fever.
18. Thiellant.	19 months	Tubercles in cerebrum and cerebellum, in membranes of brain, pleura, lungs, and bronchial glands. Died of chronic hydrocephalus.

Name.	Age.	Seat of Tubercular Deposit.
19. Billiet.	6	Three or four small tubercles in left lung; none elsewhere. Died of small-pox.
20. Mourgue.	11	Tubercles in the cerebellum and pons Varolii, lungs, bronchial and mesenteric glands, liver, spleen, and bladder; ulceration of intestines.
21. Durand.	11	Tubercles in the bronchial glands; none elsewhere. Died of typhoid fever.
22. Lahizide.	14	Cavern in summit of right lung; no tubercles in left lung; none in bronchial glands; tubercles in liver; ulceration of intestines.
23. Landormi.	5	Tubercles in cerebral membranes, lungs, and bronchial glands.
24. Beaufile.	4	Tubercles in bronchial glands only. Died of whooping-cough.
25. Richer.	2	Tubercles in lungs, bronchial and mesenteric glands; cavern at summit of right lung.
26. Lefevre.	4	Caverns in the right superior and left inferior lobes; tubercles in the bronchial and mesenteric glands, and in lungs; ulceration of intestines.
27. Duval.	8	Tubercular mass in lower part of inferior lobes; none elsewhere.
28. Bachellier.	2	Grey granulations in right lung; a few in left; none elsewhere. Died of angina.
29. Dulis.	4	Bronchial glands tubercular; no deposit in any other part.
30. Villett.	2	Cavern and tubercles in middle lobe of right lung; bronchial and mesenteric glands tubercular; liver fatty.
31. ———	2	Tubercles in both lungs—more numerous below than above; in mass on left side; in granulations on right side; bronchial and mesenteric glands tubercular; one tubercle in hemisphere of brain.
32. Guerin.	3	Tubercles in bronchial glands and under pleura; none elsewhere. Died of pneumonia.
33. Tiery.	2	Tubercular deposit in bronchial and mesenteric glands. Died of softening of intestines.
34. Goinet.	2	Tubercle in left lobe of cerebellum and in bronchial glands.
35. Batot.	2	Tubercles in lungs and glands of chest and abdomen. Died of pneumonia.
36. Ferand.	7	Tubercles in pia mater, lungs, thoracic and abdominal glands, liver, and spleen; ulceration of intestines.

Name.	Age.	Seat of Tubercular Deposit.
37. Aufray.	5	Tubercles and three caverns in inferior lobe of right lung; some tubercles in other lobes; none in left lung; a few in bronchial glands.
38. Poutriquet.	3	Tubercles in bronchial glands only. Died of scarlatina.
39. Legros.	5	Miliary tubercles in lungs; tubercles in bronchial and mesenteric glands, pleura, liver, and spleen; ulceration of intestines. Died of hooping-cough.
40. Monley.	12	Cavern at summit of right lung, and granulations; tubercular mass softened in centre, in lower lobe of left lung; tubercles in abdominal and bronchial glands; ulceration of intestines; granulations of pia mater.
41. Jobard.	5	Large cavern at summit of both lungs; tubercles in bronchial and mesenteric glands and spleen; ulceration of intestines.
42. Hurdibier.	12	Some cretaceous tubercles at the summit of right lung, with appearance of an old cavern healed. Died of scarlatina.
43. Bernard.	7	Tubercles in the brain and its membranes in pleura and bronchial glands; tubercular masses in inferior lobes of both lungs, in mesenteric glands, liver, spleen, and kidney.
44. Bagejot.	3	Tubercles in bronchial glands; none elsewhere. Died of pleurisy.
45. Menier.	22	Grey granulations under pleura; none elsewhere. Died of pleurisy.
46. Gation.	2	Grey granulations in both lungs; tubercles in bronchial glands; none elsewhere.
47. Kifer.	4	Tubercles in cerebrum and pia mater, in lungs and bronchial glands.
48. Nonot.	4	Tubercles in brain, lungs, bronchial glands, pleura, liver, spleen, and mesenteric glands.
49. Chantelier.	2	Grey granulations in inferior lobe of left lung; none elsewhere. Died of hooping-cough.
50. Hernoult.	6	Tubercles in both lungs.
51. Lemoine.	4	Tubercles in lungs and bronchial glands.
52. Desportes.	4	Tubercles in mesenteric glands; none elsewhere.
53. ———	13	Softened mass in upper lobe of left lung; no tubercular deposit in the right; tubercles in peritoneum, spleen, liver and intestines, bronchial and mesenteric glands.

Name.	Age.	Seat of Tubercular Deposit.
54. ———	12	Tubercles in lungs, bronchial glands and spleen ; softened tubercular mass in upper lobe of right lung.
55. Cerbourg.	5	Tubercles in lungs, bronchial glands, and spleen.
56. ———	3	Tubercles in lower lobe of left lung, and bronchial glands.
57. Tellier.	2	Cavern in upper part of left lung ; tubercles in lungs and bronchial glands.
58. Ricoult.	6	Tubercular deposit in bronchial glands ; none elsewhere. Died of scarlatina.
59. Mathier.	3	Tubercles in bronchial glands and lungs ; several small caverns in upper and lower lobes on right side of chest.
60. Couillier.	10	Tubercles in left lung, in bronchial and mesenteric glands, and under peritoneum. Died of peritonitis.
61. Paillet.	3	Tubercles in lungs, pleura, and bronchial glands ; miliary granulations in lung also ; cavern in left side, between superior and inferior lobes. Died of hooping-cough.
62. Rebet.	2	Tubercular deposit in bronchial glands ; none elsewhere. Died of pneumonia.
63. Payen.	2	Tubercles in lungs and bronchial glands ; cavern in lower lobe of left lung. Died of hooping-cough.
64. Dehurper.	2	Tubercles in bronchial glands ; none elsewhere.
65. Delacroix.	3	Tubercles in lungs and bronchial glands. Died of scarlatina.
66. Naret.	2½	Tubercles in lungs, pleura, bronchial glands, liver, spleen, mesenteric glands and peritoneum.
67. ———	3	Tubercles in lungs, bronchial and mesenteric glands.
68. Chatellord.	6	Tubercle in brain ; caverns in the lung on left side ; tubercles in bronchial glands, pleura, spleen, kidneys, and peritoneum.
69. Benon.	8	Cavern in inferior lobe of right lung ; tubercles in lungs, bronchial and mesenteric glands.
70. Mengant.	8	Two large caverns in both upper lobes, and one small one in right middle lobe ; tubercles in pleura, bronchial and mesenteric glands ; ulceration of intestines.
71. François.	2	Tubercles in bronchial glands ; none elsewhere. Died of pneumonia.

Name.	Age.	Seat of Tubercular Deposit.
72. Lardenois.	2	Tubercular mass softened in middle, in the centre of left lower lobe; miliary tubercles in lungs; tubercular deposit in bronchial and mesenteric glands. Died of gangrene of mouth.
73. Michel.	3	Tubercles in summit of right lung; none in left lung; tubercular deposit in bronchial glands. Died of pneumonia.
74. Nuet.	2	Tubercles in both lungs, in bronchial and mesenteric glands, and in spleen.
75. Montmartre.	2	Tubercles in bronchial glands only. Died of pneumonia.
76. Chenet.	12	Small caverns in both sides; tubercles in lungs, bronchial and mesenteric glands, epiploon, and spleen. Ulceration of intestines.
77. Coricon.	6	Tubercles in lungs, glands of chest and abdomen, and under mucous membrane of intestines.
78. Police.	5	Tubercles in lungs, bronchial and mesenteric glands, and under intestinal membrane. Died of whooping-cough.
79. Humanery.	9	Tubercles in brain, lungs, bronchial glands, and peritoneum.
80. Lange.	9	Cavern in right lower lobe; tubercles in bronchial and mesenteric glands, spleen, and under peritoneum.
81. ———	4	Tubercles in lungs and bronchial glands.
82. Coillet.	8	Cavern in upper lobe of left lung; tubercles in bronchial glands, mesenteric glands, and spleen; ulcerations of intestine and larynx; fatty liver.
83. Corvert.	8	Granulations in lungs; tubercles in several organs of abdomen.
84. Mony.	11	Cavern in upper right lobe; crude tubercles in other lobes; none in left side; tubercles in bronchial glands; tubercular peritonitis. Liver fatty.
85. Surette.	2	Tubercles in lungs, bronchial and mesenteric glands.
86. Trelu.	6	Tubercular meningitis; tubercles in lungs, bronchial and mesenteric glands; three or four small caverns in summit of left lung; ulceration of stomach and intestines. Fatty liver.
87. L'Eveque.	7	Tubercles in bronchial glands only.
88. Lemoni.	2	Cavern in lower left lobe; tubercles in bronchial and mesenteric glands; fatty liver.

Name.	Age.	Seat of Tubercular Deposit.
89. Travaillé.	8	Cavern in lower left lobe ; tubercles in bronchial glands.
90. Bellormi.	6	Tubercular mass in summit of right lung ; tubercles in bronchial and mesenteric glands, in liver and spleen. Ulceration of intestines.
91. Puton.	3	Tubercles in lungs, and ganglia of chest and abdomen.
92. Carpentier.	1½	Tubercles in lungs, and ganglia of chest and abdomen.
93. Laremy.	3	Tubercles in lungs and bronchial glands ; fatty liver. Died of gangrene of mouth.
94. Taravil.	2	Tubercles in lungs.
95. Savogin.	8	Tubercles in lungs and bronchial glands.
96. Guerin.	4	Caverns in both lungs, in upper and lower lobes ; tubercles in abdominal and thoracic glands.
97. Lacoste.	2	Tubercles in lungs, bronchial glands, and spleen.
98. ———	9	Tubercles in lungs, bronchial and mesenteric glands.
99. Amorte.	4	Tubercular deposit in bronchial glands only.
100. Blondel.	2	Tubercles in cerebellum and lungs, in bronchial and mesenteric glands and spleen ; two caverns in lower lobe on right side ; fatty liver.
101. Audriftet.	14	Tubercles in lungs and in bronchial and mesenteric glands ; ulceration of intestines. Died of hæmoptysis.
102. Farne.	3	Granulations in lungs only ; more numerous below than above ; none elsewhere. Died of hooping-cough.
103. Gabriel.	11	Tubercles in lungs, bronchial and mesenteric glands, and spleen, and under intestinal membrane.
104. Boulanger.	7	A single tubercle in lower lobe of left lung ; none elsewhere.
105. Lecompte.	3	Tubercles in lungs and glands of chest and abdomen.
106. Marchand.	14	Cavern in upper lobe of right lung ; tubercles in bronchial and mesenteric glands, and under mucous membrane of intestines.
107. Maire.	5	Caverns at summits of both lungs ; tubercles in lungs, and bronchial and mesenteric glands.
108. Monille.	4	Cavern at summit of right lung ; fatty liver.
109. Badurst.	2	Tubercular deposit in both lungs ; none elsewhere. Died of hooping-cough.

Name.	Age.	Seat of Tubercular Deposit.
110. Marquet.	2	Tubercles in lungs, bronchial glands, and spleen.
111. Robert.	4	Tubercles in lungs.
112. Boet.	2	Tubercles in lungs, none elsewhere.
113. ———	3	Numerous small cavities in upper lobe of right lung; no tubercles elsewhere.
114. Brouet.	8	Miliary tubercles in both lungs, and in bronchial glands; tubercle in brain.
115. Vanier.	9	Tubercles in brain, liver, spleen, kidneys, bronchial and mesenteric glands; caverns in upper lobe of left lung, tubercles in right lung; ulceration of stomach and intestines.
116. Masson.	10	Large cavity in upper part of right lung; tubercles in lungs, bronchial, and mesenteric glands, and in brain.
117. Desibier.	9	Cavities in upper lobes of both sides; white and grey granulations under pleura and peritoneum; ulceration of intestines; tubercle in brain.
118. Briard.	13	Cavities in upper lobes of both lungs; tubercles throughout; tubercle of spinal marrow; tubercles in submucous membrane of intestines; ulceration of intestines.
119. Mettaver.	7	Cavern in summit of left lung; tubercles in lungs and bronchial glands; tubercle in brain.
120. Berille.	7	Miliary tubercles in lungs; tubercular deposit in bronchial glands; tubercular meningitis.
121. Soiné.	2½	Numerous grey granulations throughout lungs; none elsewhere.
122. ———	4	A few grey granulations under pleura; bronchial glands tubercular. Died of typhus.
123. Houdricon.	12	Two or three tubercles at upper part of right lung, with appearance of cicatrix of old cavern near them. Died of scarlatina.
124. Libant.	7	Tubercular deposit in liver and bronchial glands. Died of whooping-cough.
125. Laloix.	5	Large tubercular masses in bronchial glands; none elsewhere.
126. Camussat.	5	Tubercles in lungs and bronchial glands; granulations under serous membrane of chest and abdomen; tubercular meningitis.
127. Arnaud.	8	Caverns in both upper lobes; tubercles in lungs and mesenteric glands; tubercular meningitis.

Name.	Age.	Seat of Tubercular Deposit.
128. Fournier.	10	Miliary tubercles of lungs; tubercles in bronchial and mesenteric glands, spleen, liver, and peritoneum; tubercular meningitis.
129. ———	8	Tubercles in lungs and bronchial glands, spleen, and under peritoneum; tubercular meningitis.
130. Vansort.	7	Tubercle at summit of right lung.
131. D'Hainot.	8	Miliary tubercles in lungs; bronchial glands tuberculated; extensive tubercular disease of abdomen; ulceration of intestines.
132. Maillard.	12	Miliary tubercles in lungs; in spleen; large masses in bronchial glands; tubercular meningitis.
133. Baude.	22	Tubercles in lungs, bronchial and mesenteric glands, and brain.
134. Soillot.	6 months	Large cavern in summit of right lung, and two small caverns in left lung; tubercles in other lobes; in mesenteric glands, and under peritoneum.
135. Durand.	14	Large cavern in upper lobe of left lung; tubercles in lower lobe, and bronchial glands.
136. Leture.	3½	Tubercles and granulations in left lung; bronchial glands tubercular; tubercular meningitis.
137. Landormi.	5	Tubercles in right lung, bronchial glands, and brain.
138. Boudin.	11	Caverns at summit of both lungs; tubercles in lungs, in peritoneum, and brain.
139. Divé.	7	Miliary tubercles of lungs; tubercles of bronchial glands, and spleen, and brain.
140. Gautier.	4	Miliary tubercles of lungs; tubercles of bronchial glands, of liver, and kidney; ulceration of intestines.
141. ———		Tubercles in two mesenteric ganglia, in cerebrum and cerebellum; <i>none in chest.</i>
142. PISOCHET.	6	Miliary tubercles of lungs; tubercles of bronchial glands, and brain.
143. Moissonet.	11	Miliary tubercles in lungs; tubercles of bronchial and mesenteric glands, and under peritoneum; two granulations in kidney; tubercular meningitis.
144. Guinon.	4	Tubercles in lungs, and under peritoneum.
145. ———	6	Tubercular masses in bronchial glands; none elsewhere.
146. Mottier.	8	Grey granulations in both lungs; bronchial and mesenteric glands tubercular; granulations in cerebral membranes.

Name.	Age.	Seat of Tubercular Deposit.
147. Berillé.	7	Tubercles in right lung, and right bronchial glands; in spleen, and under pleura.
148. Trou.	10	Granulations in right lung; large mass in bronchial glands, and in abdomen; tubercular meningitis.
149. Petit Jean.	2	Tubercles in lungs, bronchial glands, liver, and spleen, ulceration of intestines.
150. Bache.	2	Bronchial glands tubercular; no tubercle elsewhere.
151. Hervy.	4	Tubercles in right lung, and right bronchial glands; mesenteric glands tuberculated; ulceration of intestines.
152. Cagny.	8	Tubercles in lungs, and immense mass in bronchial glands; also in mesenteric glands; tubercular meningitis.
153. Guinet.	12	Softened tubercle in right middle lobe; some granulations in both lungs; bronchial and mesenteric glands tuberculated; tubercles in liver, spleen, and brain.
154. Marandat.	12	Tubercles in lungs, bronchial and mesenteric glands, and spleen.
155. Patu.	9	Tubercular deposit under right pleura, and in brain; also in bronchial glands.
156. Andonat.	10	Abdominal glands partly cretaceous, partly tubercular; <i>not a single tubercle in chest</i> ; ulceration of intestinal canal.
157. Rouget.	4½	Caverns in left lung, communicating with large bronchial tube; tubercles in lungs and bronchial glands.
158. Daring.	7	Tubercles in lungs, pleura, bronchial and mesenteric glands, liver, spleen, and right kidney.
159. Bottier.	7	Tubercles in right lung, and bronchial glands.
160. Bouvart.	13	Caverns in upper lobes of both lungs.
161. Florentin.	3	Tubercles in lungs, bronchial and mesenteric glands; fatty liver.
162. Chausson.	2	Tubercles in lungs, bronchial and mesenteric glands, spleen, and liver; ulceration of intestines.
163. Folliot.	11	Caverns at summits of both lungs; tubercular infiltration of both; bronchial and mesenteric glands tubercular.
164. Damont.	12	Caverns in both upper lobes; tubercles in lungs; ulceration of intestines.
165. Argond.	3	Tubercles in lungs, bronchial and mesenteric glands.
166. Lemoine.	5	Granulations in left lung.

Name.	Age.	Seat of Tubercular Deposit.
167. Tournois.	14	Caverns in right lung; miliary tubercles in both; ulceration of intestines.
168. Montesque.	11	Tubercles in lungs, in bronchial and mesenteric glands; ulceration of intestines.
169. Foudrion.	13	Cavern in summit of left lung; tubercles in both lungs; in bronchial glands also; tubercular peritonitis.
170. Lecrec.	13	Cavern in summit of right lung; tubercles in lungs and bronchial glands.
171. Lessin.	9	Tubercular deposit in bronchial glands; none in lungs; tubercular peritonitis; ulceration of intestines.
172. Habert.	2½	Tubercular deposit in bronchial and mesenteric glands.
173. Courier.	10	Cavern in upper lobe of left lung, and tubercles in lungs, in pericardium, and lumbar ganglia; large mass in bronchial glands.
174. Rose.	4	Tubercles in lungs, bronchial and mesenteric glands, liver, spleen, kidneys, and serous membranes.
175. Boulet.	13	Caverns in upper lobe of left lung; bronchial and mesenteric glands tubercular; tubercles in spleen.
176. Reiné.	11	Caverns in summits of both lungs; miliary tubercles in both: mesenteric glands tubercular; ulceration of intestines.
177. Beaumont.	14	Cavern at summit of left lung, and in middle lobe of right lung.
178. Bombard.	10	Cavern at summit of right lung.
179. Pacot.	2	Tubercles in lungs and bronchial glands; in mesenteric glands also; ulceration of intestines.
180. Jumal.	13	Cavern in upper left lobe; tubercles and granulations in both lungs; granulations in liver and spleen; mesenteric glands tubercular; ulceration of epiglottis and larynx.