Class IV.—Cases of Lardaceous Disease occurring with Phthisis.

Case 30.—Thomas C—, æt. 21, under Dr. Rees, in 1853. Seven months before his death he broke his ribs; the accident was followed by hæmoptysis, and shortly afterwards by all the symptoms of phthisis. The latter disease ran its usual course. The post-mortem examination showed the lungs much disorganized. Liver fatty and lardaceous, larger and heavier than usual, emitting a watery blood, and having all the usual characters of this disease. Spleen healthy. Kidneys appeared healthy to the eye, but the microscope showed some adventitious lardaceous matter present in them. Mesenteric glands enlarged, and intestines had tubercular ulceration. There was no disease apparent about the injured ribs.

Case 31.—Charlotte E—, under Dr. Barlow, in 1854. Had chest disease two years, and abdomen enlarged eight months. Body much wasted. Lungs extensively disorganized. Fluid in abdomen. Liver extremely lardaceous, and a considerable amount of white opaque fatty matter running between the lobules; weight 7½ lb. Spleen slightly affected in a similar way.

Case 32.—George B—, æt. 20, under Dr. Hughes, in 1854, with phthisis and albuminuria. After death the lung found much disorganized. Bronchial glands contained tubercular matter. Spleen hard, solid, and lardaceous. Liver fatty. Kidneys mottled, containing the ordinary exudation in tubes, with some lardaceous matter.

Case 33.—Frederick S—, æt. 18, under Dr. Addison, in 1855, for phthisis. The post-mortem examination showed extensive disorganization of the lungs. Lymphatic glands in various parts contained strumous matter. Liver fatty and lardaceous. Spleen was an extreme example of the lardaceous organ; two supernumerary spleens were affected in like manner. Kidneys healthy. Intestines were subject of tubercular ulceration.

Case 34.—Thomas A—, æt. 40, under Dr. Hughes, in 1856, and died soon after admission. He was a sailor; there was no history. He had deep scars on his legs. Lungs disorganized. Liver fatty. Spleen had undergone the lardaceous change. Intestine, tubercular ulceration.

Case 35.—William W—, æt. 38, under Dr. Addison, in 1856. He was a smith, and four years before had suffered from rheumatism; he had not been well since this time. Phthisical symptoms had existed seven months. Post-mortem examination: Lungs extremely disorganized. Intestines were subject of tubercular ulceration. Liver fatty. Spleen, 11 oz. in weight, lardaceous.

Class V.—Cases of a Peculiar Enlargement of the Lymphatic Glands frequently associated with Disease of the Spleen.

The following ten cases present a peculiar affection of the lymphatic glands. The first four (A) are seen to be connected
with lardaceous and tuberculous affections: the last six (b) with a peculiar disease of the spleen, and appear to constitute a special form of malady.

A. Enlargement of Lymphatic Glands combined with Lardaceous, Tuberculous Disease, &c.

Case 36.—Joseph L—, 23, under Dr. Gull, in 1854. When a child had strumous abscesses in the neck, the cicatrices of which were still visible. Been ailing six months before admission with general debility, and for six weeks he had observed his abdomen swell. Noticed lumps in the groin for eight years. On admission he was extremely ill and emaciated. Abdomen distended, and liver felt much enlarged. Legs anaemic. Glands enlarged into distinct tumours in the right groin. The patient gradually sank. On post-mortem examination the body was seen to be extremely wasted. Lungs healthy. Liver of immense size, and almost filling the abdomen; it weighed 14 lb., and its structure was of the extreme lardaceous kind, a section showing for the most part a uniform white albuminous appearance, and parts having white lines of fat interspersed. Spleen weighed 1 lb., and was also lardaceous; besides presenting the usual appearance of distinct nodules of the adventitious material, there were striae and masses of the same running throughout the substance. Lumbar glands very much enlarged, many the size of hen's eggs; they appeared to the eye as if simply hypertrophied; they were firm, and had rather a transparent or gelatinous appearance. Some few contained in their interior a dead yellow lymph (strumous?). The glands in the groin were structurally the same. Kidneys of natural size, dense, white, and transparent looking; microscope showed an abundance of adventitious fibrous tissue and waxy material in the secreting portion.

The following case refers to an old preparation in the museum, which appears to be lost, but the history will be found in vol. iii, 1st series of the 'Guy's Hospital Reports.'

Case 37.—Joseph P—, 10, admitted into the hospital in 1830, with enlargement of the abdomen, from a tumour, which could be felt reaching as low as the pelvis. This had been coming eighteen months. At the end of another six months he was in an extreme state of emaciation, and a row of enlarged glands had appeared beneath the jaw. The body was very wasted. Liver weighed 11 lb., flat and smooth, and when divided resembled the cut ends of bundles of muscular fibre. Kidney large. Spleen at least six times its natural size, solid, and pretty thickly studded with very small light bodies. The whole of lumbar glands were greatly enlarged, of fleshy consistence, and homogeneous structure, with nothing of the fungoid or scrofulous appearance; some red from ecchymosis, but most of them flesh-colour, with a yellow tinge.

Case 38.—William R—, 37, under Dr. Hughes, in 1856. The patient was exceedingly ill, and therefore the history he gave was not to be relied on. He stated that he was a steward on board ship, and had left the East three months, and was well until his arrival in England, five weeks before admission, although he
afterwards said he was unwell during his voyage home. He had never had ague or dysentery. When admitted he was in a typhoid state; left leg anasarcan; liver to be felt below the ribs. On the following day his skin became yellow, and jaundice rapidly ensued. After four days more he died. Post-mortem: Larynx ulcerated. Lungs contained tubercles; parts inflamed and in a state of purulent infiltration. Bronchial glands were much enlarged; a mass of them the size of an egg existed at the bifurcation of the trachea; and a small mass of degenerated lymph existed in the midst of one. The structure of the glands generally was firm and transparent, like those in the abdomen. Intestine, tubercular ulceration. Mesenteric glands about three times their natural size, and having the same appearance as the other absorbent glands. Liver was filled with a number of small yellow tubercular deposits, each about the size of a pin's head; these, when minutely examined, appeared to run in the course of the portal vessels, and surrounded the minute terminations of the vessels and ducts; under the microscope they presented not only amorphous or imperfect cells, as in tubercles, but some a firm fibrous tissue displaying nuclei by addition of acetic acid; and also some semi-transparent flakes of an albuminous material. Around the biliary ducts were some enlarged lymphatic glands, resembling those before mentioned. Weight of liver, 6 lb. 9 oz. Spleen very large and hard; upon incising it a large abscess was opened; it was not circumscribed, but the purulent matter infiltrated the surrounding structure. In the remaining parts of the organ a peculiar transparent-looking material, like the melted tallow mentioned in other cases, was seen running throughout its structure; this substance had no particular form, but infiltrated the organ in long masses. When examined more closely it was seen to consist of amorphous transparent lardaceous material, intermixed with a nucleated fibre tissue; besides this substance the spleen contained a vast number of tubercles, resembling those in the liver. Around the vessels at the hilum was a large cluster of hypertrophied glands. Weight 2 lb. 2 oz., after the pus was evacuated. Lymphatic glands throughout the body were very much enlarged, and, in addition to those above mentioned, the lower lumbar were much affected; they all resembled one another, were very firm and tough, although a section gave the idea of their being soft: this arose from their transparent and gelatinous appearance. They consisted of a nucleated, fibrillated structure, such as is seen in many fibro-plastic tumours which are removed by the surgeon, and in parts there was the addition of a transparent hyaline substance similar to that in the spleen. Many of the cells were not distinguishable from the ordinary nuclei of the gland. Kidneys healthy. (In addition to the appearances which we wish to represent, there will be seen splenic abscess and pneumonia. Whether the former arose from the simple suppuration of the adventitious deposit, or whether it arose from any other cause (as tropical influence), or whether pyemic, is not very clear.)

This case is taken from our museum records in connection with the preparation of the enlarged lymphatic glands.

Case 39.—Thomas B—, 50, under Dr. Bright, in 1830. Came into hospital with large tumours in the neck and groin, which had been growing two years. After death, upon removing the sternum a number of very large glands were seen in the mediastinum, extending to the axilla and neck; the same also in the posterior mediastinum. Ascites considerable. Liver uneven and nodulated (cirrhosed?). A
large mass of tumours, formed by enlarged glands, surrounded the aorta in the abdomen. The glands or tumours all resembled one another, some being as large as eggs. Texture uniform, pale, and slightly transparent. No disposition to suppurate or soften. Some, when first removed, appeared of cartilaginous hardness, but afterwards became softer. Spleen healthy.

B. Enlargement of the Lymphatic Glands combined with a Peculiar Disease of the Spleen.

CASE 40.—Lewis P—, aet. 24, under Dr. Hughes, in 1856. He was a blacksmith, living at Lambeth. Habits rather intemperate. His health was good until the middle of December, 1855, when, after being exposed to wet, he was seized with a severe cold, attended by shivering, pain in the back, &c. He did not get rid of this attack for some time, and he was much troubled by daily perspirations. His account led to the belief that he must have had intermittent fever. He never got well, although he went to his work. He soon found himself becoming thinner, but had no cough. On admission he was in a very debilitated condition, so that he was obliged to keep his bed, and his skin was remarkably pale; he also had dyspnœa, and felt so feeble that it seemed a trouble to him to speak. His appearance was that of chlorosis. The spleen could be felt below the ribs. The blood, when examined microscopically, exhibited no marked excess of white corpuscles. Cod-liver oil, iron, wine, and other means were adopted to restore his strength, but without avail, for he gradually became weaker, and he died in April, 1856. The only symptom of organic disease discoverable was a dulness and crepitation at the apex of one lung. Upon post-mortem examination the body was seen to be spare, but not much emaciated. Lungs, both apices indurated by chronic inflammatory and tubercular deposit, and the right containing a very small vomica. There was serum in all the cavities of the body, and the lungs were oedematos. Lymphatic glands: These were very much enlarged; those principally affected were the lumbar and posterior mediastinal, which formed a continuous chain of tumours along the whole length of the spine upon each side of the aorta. Their size was not equal to that sometimes seen, the largest not exceeding that of a walnut. A few enlarged glands were also found around the vessels entering the liver and spleen, but none of the cervical, inguinal, or external glands were at all affected, nor the mesenteric. These bodies, when examined, were found to contain no deposit, but their substance was translucent and gelatinous-looking; the smaller were soft, but the larger more than usually tough. They contained, besides their normal structure, much fibrous tissue, and large, ill-formed granule cells. Spleen weighed 1 lb. 9 oz. About half of its substance was occupied by opaque white deposits scattered through it; these were masses of a firm, cheesy consistence, possessed of no visible organization, and such as to the naked eye would appear as tubercular. The microscope showed that they contained large cells with granules, scattered through a delicate fibre tissue. Liver and kidneys healthy.

The following four cases are connected with preparations in the museum:

CASE 41.—Joseph S—, aet. 9, under Mr. Morgan, in 1826, for a large ulcer on the scrotum, caused by a puncture to evacuate serum. He had been sleeping with a
Enlargement of Lymphatic Glands combined with

brother who died of phthisis, and he had been ailing nine months with pain and increase of size of the abdomen. He died of dropsy. The post-mortem examination showed that the lungs contained a few tubercles at apices. Extensive recent peritonitis, with effusion. Intestines healthy. Spleen large, and contained a number of white bodies, of irregular ovoid shape. Kidneys mottled. Lumbar glands much enlarged, and accompanying the aorta along the spine as far as the iliac vessels and pelvis. Mesenteric glands in like manner enlarged, one or two equalled in size a pigeon's egg, of semi-cartilaginous hardness, and streaked with black matter. Bronchial glands similarly affected. Liver, substance natural, but pervaded by a few tubercles, somewhat larger than peas, and of semicartilaginous hardness. (The spleen, in the catalogue, is said to be pervaded by malignant matter.)

Case 42.—E. K—, a boy, act. 10, was under Dr. Bright, in 1828. In good health until thirteen months before, when his health began to fail. A tumour was felt in the right hypochondrium, and the glands in the neck became enlarged. His complexion was pale and wax-like. He lived several weeks longer. After death the cervical glands were seen as smooth ovoid masses, connected together by loose cellular tissue. When cut into they appeared almost of cartilaginous consistence, of light colour, slightly vascular, but with no appearance of softening or suppuration. The mediastinal and bronchial glands similarly enlarged. Mesenteric glands slightly enlarged. Lumbar glands much enlarged, as those in the neck. Liver healthy. Spleen four times its natural size. Structure altered throughout. When a section was made, at least three fourths were seen to consist of a white opaque matter, almost like tallow, pervading every part, and assuming irregular ovoid and spherical masses, very much as if tallow in a melted state had been injected into the cells of the spleen and then cooled. The glands around the roots of the vessels were all enlarged and hard. (Preparation of spleen, considered to be affected with malignant matter.)

Case 43.—Samuel W—, act. 16, under Mr. Key, in 1835. Ill two years, with enlarged glands in neck, and discharging sinuses. He gradually wasted. Body pale, and devoid of fat. Lymphatic glands much enlarged, and besides those felt during life in the neck and groin, those about the great vessels in the chest and abdomen were similarly affected. These glands were of a reddish colour, and in parts semi-transparent. Some were very large, and some contained retaceous deposit. Lungs contained a few tubercles. Bronchial glands partook of the general affection of the lymphatic system. Liver large, solid, and pale, and appeared to have a tubercular deposit throughout, in the shape of small whitish bodies, about the size of pins' heads. Spleen rather fleshy, and contained a few minute tubercles. Kidneys hard, and contained also a few tubercles. Mesenteric glands slightly hypertrophied. Intestines ulcerated.

Case 44.—Thomas W—, act. 50, under Dr. Addison, in 1830. Very pale and cachectic, and the most marked feature in the case was the great enlargement of the absorbent glands in neck, axilla, and groin. Some of these were the size of a pigeon's egg, and a few larger and smaller. After death, the glands were found loose, and free from morbid deposit; smooth, whitish, with few blood-vessels. They possessed a slight translucent structure, quite uniform, and exhibiting no trace of softening or suppuration. Appeared to consist of a morbid hypertrophy rather than an adventitious deposit. Glands in groin similarly affected. Lungs and heart healthy. A large mass of glands around Glisson's capsule and along the aorta.
Disease of the Spleen.

Mesenteric glands slightly affected. Liver large, pale, and slightly granular. Spleen much enlarged, and texture firm, and contained an infinite number of small, white, nearly opaque spots, which were thought not to be tubercles.

The only case I will quote from foreign sources shall be the following, recorded by Dr. Markham in the fourth volume of the 'Transactions of the Pathological Society of London,' page 177:

Case 45.—A man, set. 30, had been a patient of Dr. Sibson, in St. Mary's Hospital. He had enjoyed good health up to a period of about a month before admission, and he died about six weeks afterwards. He was very pale, ankles oedematous, abdomen somewhat swollen, urine albuminous, and, from the circumstance of an enlarged gland existing in the neck, it was thought probable that some malignant disease existed internally. At last the man became more wasted, comatose, and jaundiced. The autopsy showed the presence of a cluster of enlarged glands in the anterior mediastinum, encircling the aortic arch, and extending down the posterior mediastinum. They were whitish-yellow, hard, and unyielding, resembling medullary carcinoma. The spleen contained straw-coloured masses, some as large as a filbert, others as mere specks, distributed through every part of it. Weight, 1 lb. 10½ oz. Similar deposits were found in some of the mesenteric glands. Dr. Markham adds: “The appearance of the tumours, and the history of the man's disease, left no doubt as to their malignant character, but when portions of them were tested by the microscope, they were found to contain none of the elements usually given as characteristic of cancerous disease; they seemed to be simply fibrinous deposits, containing granular matter with granular nuclei, but no trace of a composite cell or of fibroid deposit; the specimen was carefully examined by Dr. Handfield Jones and Dr. Sieveking, as well as by myself. Some of the proper elements of the spleen were found mingled with the deposits in that organ.” Dr. Bristowe was asked further to examine the specimen, and stated that the character assigned by Dr. Markham to the diseased condition of the spleen and lymphatic glands was apparently correct; there was little evidence to show that they were malignant, and none stronger that they were scrofulous. Dr. Bristowe adds, that the glands were of a grayish fibrous material with opaque yellow circumscribed deposits. The fibrous substance had something of the appearance of scirrhus, but was scarcely so firm, nor did it yield a creamy juice. The yellow deposit was not very unlike tubercle, and consisted of aggregated cells and granular matter disseminated through a delicate fibrous reticulum. The cells of irregular shape, and, with these, oil-globules and cholesterine. The remaining portions of the glands consisted of fibrous tissue. The adventitious matter in the spleen was also fibrous.

The first question for inquiry is, what is the nature of this lardaceous disease, and how does it affect the organs which are the subject of it? Pathological investigations of late years have shown that the textures of the body may undergo a variety of changes or degenerations, and thus, as formerly every process was called inflammatory and every change the
result of inflammation, so now we recognise the replacement of healthy tissue by fat, fibre (besides into the previously well-known cancer and tubercle), and many other products, amongst which is the lardaceous material, a principle which appears to be altogether peculiar, and one formerly much overlooked. There are, no doubt, also various other materials produced in the different morbid processes which are so constantly being set up in the body, and it may be that those found in the lymphatic glands and spleen, presently to be mentioned, are of a peculiar kind.

The name lardaceous takes its origin from the resemblance which the liver has, when thus affected, to bacon rind. The cut surface of the organ has a semitransparent appearance, presenting no structure, and feeling, when incised, like a piece of wax, or of wax and lard combined. It can thus be cut into portions of the most regular shape, with the sharpest angles and smoothest surfaces; the thinnest slice can also be taken off by the scalpel for microscopic purposes. There is little change produced in it by water or alcohol, and acids and alkalies do not effect any great alteration in it. It is thus remarkably inert, and may be kept for a great length of time without any signs of decomposition. As regards the nature of the lardaceous substance, it is not composed of fat, nor is it wax or gelatine, or any of the ordinarily well-known animal substances, but an albuminous compound, altogether differing from these, and therefore quite deserving of a new name. When affecting organs in too slight a degree to be recognisable by the naked eye, it is seen by the microscope in the form of rounded or oval masses like horn, presenting no structure, and quite unaffected by the application of ordinary reagents.

The very lax expression colloid has been used by some pathologists to designate a transparent viscid fluid or solid substance, found under a great variety of circumstances in all parts of the body, including the disease of which we are speaking. Nothing, however, but confusion can result from making use of the same name to designate the gelatinous-like matter contained in the so-called colloid cancer, the fluid found in cystic disease of the ovary, the material of numerous cysts in other parts of the body, as in the thyroid gland, and
some Allied Affections.

the lardaceous disease now under consideration. The term, however, has even had a much wider application than this, and has been used to designate all those amorphous bodies detected by the microscope in almost every degenerated structure of the human frame, such as the corpora amylacea of the brain. If the same chemical composition be discovered in all these substances, and under all these different conditions, then it will be time enough to make use of a common expression for their designation; but, at present, the circumstances under which they are found, including their whole clinical history, are so different, that no advantage appears to be gained by using so ill-defined an expression as colloid to include them all. The fact is, that there is scarcely an organ in the body, under certain conditions of disease, but which will exhibit amorphous, vitreous-looking masses, by the microscope, and which cannot be distinguished from the ordinary lardaceous material when small quantities of it are examined at a time. To say, however, that the two are alike, would be almost equivalent to declaring that tissues undergoing degeneration form within themselves, among other changes, a certain peculiar albuminous product, which, if occurring in excess, is no other than the well-marked lardaceous material. This may be true, but is not yet proved; and there are many reasons against adopting such an opinion—the lardaceous change being one analogous to the cancerous or tuberculous, whereas the other condition, so frequently found in all organs, is simply a degeneration, as is proved by the presence of cholesteroline and other substances of recognised low or deficient organization. In a wasted eye which we lately examined, the contents consisted mainly of a number of these bodies called colloid and cholesteroline. These may be also found in the kidney, and particularly in the brain and spinal cord, when long atrophied. In cancer, especially in the epithelial form, they are found in abundance; and apparently similar bodies are occasionally met with in the blood, as described by Gulliver and Hassall. In wasted nervous structures, even another material has been mentioned under the same name, the so-called corpora amylacea. These, probably, have been originally the colloid bodies resulting from the formation of new products in a decaying brain, and then undergoing a further change, until
they are capable of being coloured blue by iodine. It may be
as well to state that iodine does not effect this change on the
ordinary colloid or lardaceous material, although these sub-
stances very readily absorb the test, and thus become coloured
by it. They appear of a bright cherry-red colour, while the
ordinary tissue retains its original pale hue. From many ob-
servations, we can say, that ordinary lardaceous or colloid
matter is not turned blue by iodine and sulphuric acid, as
some appear to suppose. With regard to the effect of these
reagents upon the so-called corpora amylacea, this is a point
foreign to our subject; but we may state that the true
nature of these latter bodies is not yet satisfactorily shown,
whether they be really starch, lignine, or other allied material.

*Lardaceous liver.*—In its extreme form the peculiarity of
this disease is very great. The increase of size of the organ
is immediately recognised, and, when removed and handled,
its more than corresponding density is very remarkable. A
liver which at first sight appears to be simply a fat one, may
often be known to be pervaded by lardaceous matter by its
excessive weight, even before a section is made of it; and this is
easily intelligible, when it is stated that the fatty liver sometimes
attains as low a specific gravity as 1005, whereas the lardaceous
may reach as high as 1085. The sensation upon handling a
liver pervaded by this material is very different from that pro-
duced by the softness and elasticity of ordinary healthy viscera,
being more like that which is experienced in feeling a lump of
wax. Its resemblance to this substance is increased by the
fact of the organ being moulded to the form of the other
viscera with which it comes in contact, having its sides
straight, its front flat, and its under surface shapen hollow, to
correspond to the kidneys and spleen. When cut, however,
the knife passes more readily through than it would through
wax, the lardaceous substance being crisper than the latter;
and this has suggested its resemblance rather to a turnip. A
turnip, on the other hand, is too hard, and therefore, pro-
bably, a material imagined to be equal in consistence to
these two substances combined would be nearer the truth.
In well-marked instances of the disease, the solidity and firm-
ness of the organ is very remarkable, so that the thinnest
slice can easily be cut by the scalpel for microscopical pur-
some Allied Affections.

poses, and pieces of all shapes, presenting the acutest angles and sharpest edges, can be readily removed. The appearance to the eye is something like the bacon rind, from which it derives its name, being too translucent for wax, except the latter be seen in a melted state. If the disease be far advanced, the organ will present in its interior no trace of structure, except here and there a blood-vessel, emitting a pale watery blood, the adventitious material presenting merely a uniform smooth surface. In a less degree of disease, such as is generally found towards the circumference of the viscus, the lobules are mapped out in a remarkably clear and defined manner; in fact, in no disease of the liver is the appearance of lobules (which, as a rule, are not marked) so distinct as in this particular morbid condition. This is caused by the lardaceous material being deposited within the lobule, in and among the secreting cells, causing it to appear as a distinct transparent body, and made more definite, often, by a slight fatty degeneration of its margin; for this fat, being mixed with the lardaceous matter, produces an opaque white material, which passes completely around and amongst the lobules, mapping them out in the most perfect manner. Towards the edges of a lardaceous liver, then, this appearance is generally seen—a dead white opaque matter running in the course of the portal vessels, and between these the transparent lobules themselves, with the hepatic vein in their centre. Fat is no essential element of the disease, for the most extreme instances do not contain it, except it may be towards the circumference of the organ, as already stated. In cases of phthisis, however, we often see the two coexisting: the liver may appear to the eye only yellow and fatty, but at the same time remarkably heavy; and when a section is made, the structure will be seen to be composed of the two morbid conditions, in various proportions. Probably, towards the circumference the organ will be yellow, soft, and altogether fatty, while in the centre the same appearance will be seen, but pervading it there will be the ordinary-looking, translucent, firm lardaceous matter. By the microscope, the peculiar element which has changed the organ appears only as a refracting, corneous-looking substance, of no particular form or structure. In the portions of the liver less affected, this substance is seen mixed with the secreting cells
in the lobules, the cells themselves having a withered appearance, being small and almost devoid of granular contents. If the circumference of the liver has become fatty, the appearance of lobules under the microscope, with their dark opaque margins, becomes very well marked. In some cases an increase of fibrous tissue has appeared to be present, but whether this has been an essential part of the morbid change, or whether it has been due merely to a coincidence of the lardaceous degeneration with an early cirrhosis, it is difficult to say. The lardaceous liver is little prone to change; is not much affected by water, alcohol, acids, alkalies, or ordinary reagents; and may be kept for a great length of time without any odour being emitted, or other signs of decomposition manifesting themselves.

**Lardaceous spleen.**—There are three conditions of the spleen to be found in connection with the disease under consideration. Although only one, probably, can strictly bear the name lardaceous, the others have no doubt strong ties of relationship with it. The first, or true affection, is recognised by the presence of round translucent bodies, pervading the structure of the organ, occupying, in fact, the place of the ordinary splenic or Malpighian corpuscles. These bodies are about the size of millet seeds, although they vary in size according to the degree of the disease. In the most extreme cases they never occupy more than about half the bulk of the organ, the intervening pulp structure being healthy. The spleen, as a whole, is generally enlarged, though not very much so, and therefore no indication may exist externally of the disease within. In consistence the organ is hard, but not more so than is witnessed in some forms of heart disease. Even when a section is made the alteration in structure might be very readily overlooked, and no doubt often is so; but after being exposed to the air for some time, the distinction in colour between the adventitious matter and the natural splenic structure becomes very evident. These translucent bodies, as before said, are formed by the deposition of the lardaceous material in the Malpighian corpuscles, and the same product is sometimes seen surrounding the smaller arteries which pass to the latter, as well as affecting some of the fibrous trabeculae. The material itself, both to the naked eye and to the micro-
some Allied Affections.

scope, presents the same appearance as that found in the liver.

The second form of the disease is where a peculiar translucent substance pervades the organ in all parts, giving the appearance as if a quantity of melted tallow had been poured into its cellular structure. This matter appears identical in all respects with that before mentioned; but instead of affecting the splenic corpuscles by a slow transformation, is poured out into the substance of the organ in a more ill-defined and rapid manner; whether the two, however, result from the same affection presented to us under different circumstances, or whether they are dissimilar, remains yet to be proved by more extended observation. Besides the mere outward similarity of the disease to the ordinary form, its association with tuberculosis, and with a peculiar enlargement of the lymphatic glands, sometimes found coexisting with lardaceous disease, is another reason for supposing the two are closely allied. This is seen in cases Nos. 36 and 38, which suggest the question whether this peculiar matter in the spleen, as well as the lardaceous generally, may not be closely allied to the tubercular, but assuming another form; for since we see transparent tubercle and soft strumous deposit, whose identity is generally supposed, coexisting in one organ, so is it possible that a very rapid and acute exudation of inflammatory strumous matter might assume the condition seen in the spleen, and in truth we do witness a very similar substance produced around vonmice in phthisical lungs. One peculiarity in the case No. 38, just mentioned, is that the matter in the spleen contained a fibro-nucleated new growth; and it will be observed that, in many cases of lardaceous disease, both in the liver, kidney, and absorbent glands, this tendency to the formation of fibre was recognised.

The third form of the disease which we have to mention bears some relation to those previously spoken of; but its precise connection with them has yet to be discovered. Its tie of relationship is not only through its own similarity of composition, but through tuberculosis and the peculiar enlargement of the lymphatic glands, which are sometimes found with lardaceous viscera. The spleen in this form is seen to be pervaded by a whitish-yellow, opaque, soft material,
in distinct masses of an irregular shape, and not occupying any particular portion of the organ, or running through it in continuous lines, as in the former cases. It resembles in appearance the mixture of lardaceous material and fat, already spoken of as often seen between the lobules upon the margins of the liver. This disease has been sometimes indiscriminately called tuberculous, but the adventitious substance differs considerably from true miliary tubercle in the spleen, although it resembles very closely the soft yellow strumous material found in this organ, and with which it is possible it may be identical. The great interest of the affection is its being associated with an enlargement of the lymphatic glands, producing an obscure but fatal disorder. In vol. iii of the 1st series of the 'Guy's Hospital Reports,' under the article "Abdominal Tumours," by Dr. Bright, this physician, while describing the various forms of disease displayed by the spleen, gives the following account of one variety which appears to be identical with that to which we refer, though he styles it malignant: "There is another form of disease which appears to be of a malignant character, though it varies from the more usual form of malignant disease, and which has been particularly pointed out by Dr. Hodgkin as connected with extreme disease of the absorbent glands, more particularly those which accompany the blood-vessels. The whole of these absorbent glands become larger and firmer, without any tendency to suppurate, as in ordinary scrofulous disease, or to soften, as in cerebriform disease; and, at the same time, the spleen becomes more or less completely infiltrated through its whole substance with a white matter, with almost the appearance of suet. This matter insinuates itself into the cellular structure of the spleen, but it is no easy matter to point out what particular portion of the structure receives it. A section of the organ seems to show, from the irregular forms assumed, that it fills a cellular structure, and, in some degree, takes its shape from the cells into which it enters; having less tendency to assume the form of regular globular masses, or tubera, than other malignant disease."

How these three forms of disease in the spleen are connected we will not at present undertake to say, but that an indirect connection exists is seen by the perusal of the above cases; where the second and third forms are both seen asso-
ciated with an enlargement of the lymphatic glands and with tuberculosis, while these two latter affections are constantly combined with lardaceous disease.

**Lardaceous kidney.**—The lardaceous disease may occur to any amount in the kidney, associated with similar disease in other organs. It may arise as a primary affection, and often, in its most marked form, is found in connection with phthisis. In some of these extreme examples there also appears to be a considerable development of fibrous tissue; and this was particularly the case in two specimens referred to in a paper on "Bright's Disease," in vol. viii of this work. In such cases as these, the organ, when removed from the body, might be mistaken, at first sight, for a specimen of the large white kidney of Bright, but a little more minute examination will show the difference between them. The organ is considerably harder than the Bright's kidney, and, instead of being easily lacerable, is remarkably firm and tough; the surface is uniform and smooth, and presents no mottling or white deposit discoverable by the eye; the cortical structure is seen to be much increased in extent, and this causes the whole organ to appear as if composed of one uniform albuminous substance (except where the apices of the cones appear), giving it a semitransparent appearance and a leathery consistence. These extreme cases are, however, seldom met with, but have been found associated with diseased bone, phthisis, or occurring as the primary disease. The more common form of the disease is a less or partial degree of it, and associated with a similar affection of the liver and kidneys, and met with, like them, in connection with necrosis of bone. The translucency, hardness, and uniformity of the surface is often sufficient to identify it, if present to any extent, but if in a less degree, the aid of the microscope is required to detect the presence of the disease. If a thin slice of the affected organ be taken, this instrument will at once discover the alteration by the peculiarity of the Malpighian corpuscles; these appearing by transmitted light as round transparent bodies, having a glistening aspect, and thus producing a resemblance to the spleen when the subject of the like disease. If the capsule be torn off, the lardaceous material will be seen surrounding and enveloping the capillary vessels composing the Malpighian tufts, and also the smaller
arteries which are going to form them. If iodine be added to such a section, the Malpighian corpuscles will be seen to imbibe the colouring matter, and appear as bright-red glistening bodies, set in the ordinary structure of the kidney.

With reference to lardaceous disease affecting other organs, there is no doubt that such occurs, and, as before mentioned, the microscope brings to light this peculiar transparent or colloid material under a variety of circumstances. Whether, however, the change in tissues which produces this lesser morbid condition is identical with that which causes the total alteration of the organ, to the destruction of the patient, as in the disease under consideration, is not yet proved. We shall therefore let the question rest for the present, and be content with having spoken of the great and marked changes occurring in the three important organs already described. It might be expected, however, that something further should be said with reference to the condition of the bone in this disease; whether it be the result only of the more ordinary and simpler inflammatory processes, or whether it be an altogether peculiar state connected with or tending to the production of the lardaceous affection in the internal viscer.a. More observations are yet required to give a positive answer to this question; but it will be seen that, in the majority of the above cases, the disease of the bone appeared to present no great peculiarities, except in some cases the tissue was very soft and gelatinous, and that in two cases, Nos. 10 and 13, a watery discharge took place from the tibiae, and spongy ulcers sprang from their surface which had a great resemblance to carcinoma.

Peculiar enlargement of the lymphatic glands.—As before alluded to, the affection of these glands under present consideration is not strictly lardaceous, but brought forward in connection with disease of this kind, because either a variety of it, or having a close relationship with it. It is a form of disease which has attracted little notice, probably on account of its comparative rarity, and also on account of the obscurity and want of striking symptoms accompanying it. It is an affection, however, which produces a lingering form of fatal cachexia, and therefore well worthy of our especial attention. The disease might with propriety have been discussed quite independently, but we have brought it forward here in con-
nection with lardaceous disease, because sometimes found with
the latter, and undoubtedly having some close affinity with it.
(See case No. 36.) Another tie of relationship is its asso-
ciation with tubercular disease, as many of the above cases
will show. The most interesting and important fact, however,
in the history of this particular affection is the condition of
the spleen with which it is associated—that before mentioned
under the third variety of disease of this organ, and al-
luded to in the quotation from Dr. Bright's paper. A glance
at the cases above given, including those from our museum,
one lately occurring at Guy's, and one copied from the 'Trans-
actions of the Pathological Society,' will show how striking
and remarkable an agreement exists between them all, both as
regards symptoms during life and the appearances after death.
Their uniformity is too considerable to constitute merely a
coincidence of disease between the glands and the spleen, and
therefore there is, without doubt, a peculiar form of affection
involving these organs, accompanied by an anemic cachexia,
prostration, and death. We say a peculiar affection, for
although allied to the tubercular, we believe it to be one not
yet recognised under the ordinary forms of disease.

The enlargement of the glands is in most cases gradual, ex-
tending sometimes over a period of two, three, or more years,
and often, from commencing in the neck in weakly children, is
called scrofulous. When the mischief is thus gradual in its
commencement, and affecting only part of the glandular system,
no marked symptoms ensue, but as time tends to its develop-
ment in the thoracic and abdominal glands, a slow pros-
tration ensues, terminating in death. The glands often reach
an enormous size, much larger than when affected with scrofula,
a bunch of them often being composed of separate tumours
each the size of an egg. When felt during life, in their early
progress, they are recognised by their peculiar elastic feel,
differing both from the early hardness or the subsequent
softness of scrofulous glands, and also differing from these (as
far as our experience goes) by being quite unaffected by iodine.
In fatal cases they have been found not only forming large
tumours in the neck and groin, but accompanying the aorta its
whole length throughout the body, and thus affecting all the
posterior mediastinal and lumbar glands, occasionally even
Lardaceous Disease and

following the arch of the aorta to the anterior mediastinum. Sometimes, however, none of the external glands have been affected, and the existence of glandular enlargement has not been known until after death, as in case No. 40. When these bodies are removed it is seen that they constitute distinct tumours, easily separable from each other, there being no bond of union between them, arising from any previous inflammatory action or deposition of new material amongst them. When incised their appearance is altogether peculiar, being of a yellowish colour, and having a soft, translucent aspect. Upon squeezing or attempting to tear them, however, this softness is found to be an illusion, as they are remarkably tough, and emit no juice, but only a little serous fluid. Upon cutting off a small portion and endeavouring to separate it by needles, it is found to have almost a leathery consistence. The cut surface of the glands is quite uniform, presenting no appearance of structure to the naked eye, though sometimes they contain small masses of dead material in the centre. The first idea suggested by their general aspect is that the disease is a simple hypertrophy of the gland, but a microscopic examination shows this to be incorrect, for although some glandular secreting elements may still be found, yet the main structure is a fibro-nucleated tissue; in fact, an altogether new formation, and not to be distinguished from an ordinary fibro-plastic growth—indeed, many tumours passing by this name, which the surgeon occasionally removes from the neck, appear to be often no other than glands affected with this particular form of disease. Sometimes, besides the nucleated-fibre element, some transparent, albuminous, amorphous material has been present, particularly in those cases where lardaceous disease has elsewhere existed, and this is another reason to warrant the opinion that the two affections are closely allied. In cases Nos. 36 and 38 the disease in the glands was associated with a peculiar wax-like substance in the spleen, and composed of a very similar material, being made up of a lardaceous matter and a new fibrous tissue. Its connection with marked lardaceous liver is seen in the former of these cases; with tuberculosis in cases Nos. 38 and 40, &c. The most remarkable feature, however, in the history of the disease, is that before alluded to, its close intimacy with that peculiar affection of the spleen which
contains the suet-like substance, and which slowly and inevitably leads to a fatal end. The symptoms appear to be only those of anaemia, prostration, and final exhaustion.

In what measure the lymphatic glands and spleen relatively participate in producing this result we will not venture to say, although sufficient is known of the functions of both organs to be assured that disease in either will lead to severe derangement of the system, and, moreover, connected as they are with the blood-making process, that if a slow destruction of their structure goes on, so a gradual death of the patient will assuredly ensue. It will be seen that this combination of disease is remarkably alike in all the cases we have given, and that in none was any disease of the bone present.

Want of space alone prevents us from offering a much fuller account of the cases above given, together with more extended details of the pathological observations, and some theories respecting the diseases themselves. We have been content, therefore, with briefly stating the main facts connected with a particular class of disease, including several morbid conditions whose identity is not proved, but whose close relationship appeared to warrant the adoption of the present method of narration, in order to fix attention to them. First, there are the cases of simple lardaceous disease occurring alone; then those associated with tuberculosis; then those cases connected with disease of bone; afterwards those found in connection with a peculiar affection of the glands; and, lastly, those cases where this latter condition of the glands occurred unassociated with lardaceous disease (unless the white deposit in the spleen be a modification of it), but allied to the previous classes by a close relationship.

While writing this paper I endeavoured to find the observations of Dr. Hodgkin on a peculiar enlargement of the lymphatic glands, referred to by Dr. Bright, but have only now, and on its completion, chanced to meet with them in the seventeenth volume of the 'Medico-Chirurgical Transactions.' I there discover that one or two of the cases extracted from our museum have already been published, and Dr. Hodgkin, points out the connection of this disease with a peculiar affection of the spleen. Had I known this earlier I should have
altered many expressions which I have used with respect to any originality of observation on my part, but otherwise I do not know that I could have done better than again to refer to these cases, which resemble so exactly those which have come under my own notice. It is only to be lamented that Dr. Hodgkin did not affix a distinct name to the disease, for by so doing I should not have experienced so long an ignorance (which I believe I share with many others) of a very remarkable class of cases, a recognition of which would have guided both myself and others to an explanation of some more recent instances coming under our notice.