proportion of cases of emphysema of the lung does, in fact (as every one who has paid the slightest attention to the subject knows), take origin in retrograde pulmonary tubercle. Almost every recent pathological anatomist has given testimony to this fact, although there has been considerable difference of opinion as to the *rationale* of the connexion. By an analysis of a considerable number of cases of dilatation of the heart, *without valvular disease*, I have shown that this affection, also, is an exceedingly frequent accompaniment of retrograde and obsolete tubercle, as well as of other atrophic diseases of the lung; and that simple hypertrophy and dilatation of the heart is related to disease of the lung chiefly through that *atrophy of the pulmonary tissue*, which is the cause both of emphysema and of dilatation of the heart, and the source of their relation to each other, and of their very frequent concurrence in the same subject. The careful researches I have made on this subject, therefore, corroborate to a certain extent the common opinion, that emphysema of the lung is more apt to be followed by cardiac hypertrophy than to take origin from it; while the returns of St. George's Hospital *appear* to sanction the opposite opinion. Again, the result of my investigation is in accordance with the statements of most other authors, in respect to the *kind* of cardiac disease which follows most frequently on emphysema; viz., hypertrophy without valvular disease chiefly of the right side. The returns of St. George's Hospital, on the contrary, assign to emphysema a higher ratio of connexion with valvular disease than with simple hypertrophy. The reason, however, of both these discrepancies is evident, if we bear in mind what has been stated above, to the effect that the London lists of emphysematous cases must be read with allowance for the omission of a great proportion of them, including most of those in which the true *genesis* of emphysema, and its connexion with *non-valvular* disease of heart, are most conclusively shown.

I do not hesitate, then, to express my opinion, that Dr. Chambers has (not by any fault of his own, but by the inaccuracy of his materials) been led into error as regards the relation of emphysema to disease of the heart. The immense accumulation of cases of which he has made, for the most part, such admirable use, presents an erroneous bias throughout which it is not difficult to explain, and of which any one may at once convince himself by observing forty or fifty miscellaneous dissections in an hospital, with special reference to this point. He will then see that pulmonary emphysema is an *almost invariable* concomitant of retrograde and obsolete tubercle; and that in a large proportion of the cases in which these two affections concur to any marked extent, hypertrophy and dilatation of the heart, chiefly of the right side, and without valvular disease, also occur. Bearing in mind the fact, that tubercle, under other circumstances, is very rarely indeed connected with hypertrophy of the heart, he will at once be led to the conclusion, that pulmonary emphysema and cardiac hypertrophy have a common point of origin in tubercular cases, and that the determining cause of both affections is connected, in some way or other, with the retrogression of the tubercles. Having ascertained these facts, he will scarcely have any difficulty in satisfying himself that in tubercular cases the cardiac affection is never *primary*, being often absent when emphysema is present to a notable degree, and very often slight, when the latter is considerable in amount. For the detailed arguments in favour of the view that *cardiac hypertrophy and pulmonary emphysema are collateral sequelæ of atrophic affections of the lung*, I must refer to the paper already mentioned.

Tubercular cases form the *instantiæ crucis* for determining the mode of origin and connexion of the two pathological conditions to which the above remarks refer; because in them it cannot be disputed that both the one and the other are *secondary* consequences of the original pulmonary affection. But the principle determined by an analysis of such cases may be safely applied to others in which cardiac hypertrophy and emphysema concur; and I believe there will be found few exceptions to the above law of their mutual connexion. I am far, however, from wishing

to deny that primary cardiac disease may, under certain circumstances, tend to generate pulmonary emphysema as a secondary condition. This is even probable *à priori*, from the consideration of the frequency of bronchitis in cardiac valvular affections. But any tendency which thus arises to emphysema is in the majority of cases counterbalanced by the occurrence of dropsy of the serous cavities; a condition, of all others, most opposed to the production of this pulmonary lesion. So that, upon the whole, I believe my own statistical conclusion (although founded on too narrow a basis for induction) to be not far from the truth; viz., that valvular disease of the heart, *per se*, presents no particular relation to pulmonary emphysema, nor does it, on the whole, tend greatly to exclude this affection. It should be kept in view also, that the conditions in which emphysema of the lung has its origin tend also greatly to aggravate disease of the heart in all its forms, and may often give to a latent disorder of the valvular apparatus, that fatal impulse which superadds to it dilatation of the cavities, hypertrophy of the walls, and their well known sequelæ. So that, even in valvular affections of the heart, the coexistence of emphysema of the lung is, in many cases, neither to be looked upon as a result of the major affection, nor as an independent phenomenon: but as one of the circumstances tending most strongly to precipitate the cardiac disease to a fatal termination.

I conclude by giving from the *British and Foreign Medico-Chirurgical Review*, the following proportions, which may be of use to others in pursuing allied inquiries, and which I believe to be as nearly accurate as the nature of the investigation and the small number of cases will allow.

In a series of 84 mixed cases, most carefully observed and recorded with reference to these points.

Hypertrophy of the heart occurred 13 times* = 15.5 per cent.

Ditto, with valvular disease† 6 times = 7.1 ditto

Emphysema of the lung 26 times = 30.9 ditto

Among these 26 cases of emphysema,

Hypertrophy of the heart occurred 6 times = 23.1 ditto

Ditto, with valvular disease, twice.

Edinburgh, January, 1854.

CASE OF CANCER OF THE KIDNEY.

By AUGUSTUS EVES, M.D., F.R.C.S., Surgeon to the Cheltenham General Hospital.

THE subject of this case was a gentleman, aged 38. As I saw him for the first time about a fortnight before his death, I have endeavoured to procure the previous history of his illness from his mother; of which the following is a brief abstract.

Previous History. Mr. — was of full habit, and apparently healthy, until the summer of 1852, when a gradual but progressive emaciation became apparent. In December of the same year, he had severe pain in the left lumbar region and left side of abdomen, accompanied with considerable hæmaturia. This pain recurred violently in paroxysms during the following two or three months, abating in the intervals, but not completely disappearing; the hæmaturia also being a most frequent concomitant. This last mentioned symptom occurred at intervals throughout the disease; and in July 1853, the surgeon in attendance was obliged to pass a catheter, on account of retention of urine, from the neck of the bladder being filled with coagulated blood. This coagulation of blood in the bladder, was, at different times throughout the disease, a cause of great irritation and difficulty, as regarded emptying the bladder. From the first attack of pain, there was frequent vomiting, with almost constant nausea; the appetite for food gradually became impaired; and at last he could scarcely take any nourish-

* Exclusive of doubtful cases, as mentioned above.

† By valvular disease, it is not meant (as in the St. George's Hospital returns) to include every instance of endocardial thickening or deposit, but only those evidently causing functional disturbance. The cases of endocardial disease in the wider sense amount to more than 17 per cent.

ment whatsoever. The emaciation continued to progress; and for the last two months was particularly rapid, diarrhoea being often a concomitant. It must also be added, that pain was occasionally present in the right renal region.

Present State. When examined by Dr. Speer and myself, about a fortnight before his death, there was extreme emaciation; the skin had that white waxy appearance, slightly tinged with yellow, so characteristic of the cancerous cachexy, of which, indeed, the entire symptoms were fully developed. The stomach had lost its power, as evidenced by the continuance of vomiting, nausea, and the other allied symptoms mentioned in the previous history. The urine, which was seen at this examination, contained a number of flat, oval, almost colourless coagula. The pulse was exceedingly small and weak, and the radial artery on the left side could not be felt at all. On the left side of the abdomen was a tumour occupying nearly the whole side of that cavity, extending from the renal region and pressing forwards on the anterior wall of the abdomen, this tumour was moveable, and by pressing it forwards from the proper situation of the kidney, the whole substance moved and raised the abdominal parietes anteriorly. This proved that the tumour was either in relation with the kidney, or was the kidney itself enormously enlarged. This fact, together with the frequent attacks of hæmaturia, and the well marked development of the cancerous cachexy, led us to form the opinion that the disease was cancer of the kidney. I am quite aware, from the *post mortem* examination, that the right kidney also might have had a share in producing the hæmaturia. The patient died about a fortnight after my first visit; the marasmus rapidly increasing, until he sank completely exhausted.

Examination of the body, made by Dr. Speer. Emaciation was extreme. The tumour was apparent externally, occupying the lumbar region, and filling the whole space between the left hypochondrium and iliac region, and extending to the mesial line. Upon opening the body, the tumour was found covered by omentum, not adherent; then by a peritoneal coating; it adhered to the small intestines in its vicinity, and was everywhere bound down behind by peritoneum. It was removed partly by dissection and partly by tearing it away from its connexions. It was then found that there was no kidney behind it. The spleen appeared above it. The tumour, in fact, was the kidney, greatly enlarged, and changed into a mass of encephaloid cancer. It measured in length about seven inches and a half, in width five inches, in thickness about four inches. Its weight was between three and four pounds, by conjecture; no means of accurately ascertaining this point being at hand.

Upon cutting the tumour open longitudinally, some remains of the structure of the kidney were *slightly* apparent; such as the distinction between the cortical and medullary parts. Very little of its anatomical structure, however, could be recognised. The pelvis of the right kidney was filled with a calculus of phosphatic character.

The enlarged kidney presented three different forms of structure in separate portions of the organ. 1. One part presented a firm, whitish, almost homogenous appearance, with scarcely any visible vessels. 2. Another portion showed a structure much softer, of a brain-like appearance, and the white colour mixed with numerous red lines, like blood-vessels or enlarged capillaries filled with red blood. 3. There were cavities filled with a red grumous mass of broken up structure without organisation, arising from the destructive process which had been fully developed in those parts, with, at the same time, considerable effusion of blood.

REMARKS. The different states in which the organ was found, in this case, might suggest the idea of a process of softening analogous to that which takes place in tuberculous deposit, but a moment's reflection will show the analogy to be false. Cancer being an organised structure—consisting of cells, either capable of increasing by means of one cell throwing out others, cystoblasts (Walshe), or continually deposited by the vessels which bring them, as it were, to the cancerous depôt (Lebert)—cannot be amenable to the same laws which govern deposits incapable of organisation. Lebert

(*Traité Pratique des Maladies Cancéreuses*) contends with great reason that softening in cancer is not a phase of its development, but one of the various effects of deranged nutrition, which may, or may not happen.

Another effect of this deranged nutrition acting upon the blood vessels, according to Lebert, is the effusion of blood in the substance of the morbid tissue. This appears to have taken place in the case under consideration, and hence an explanation of the cavities and their contents. The absence of pulsation in the left radial artery was not accounted for by the dissection; had a more minute investigation been instituted, in all probability some secondary deposit would have been found, which, by its relative position, might have explained this effect. The renal hæmorrhage was possibly due, in some degree, to the calculus in the right kidney, as well as to the cancerous disease in the left.

Cheltenham, January 6th, 1854.

A CASE OF CONGENITAL DEFICIENCY OF THE LACHRYMAL SECRETION.

By JAMES VOSE SOLOMON, Esq., Surgeon of the Birmingham and Midland Counties Eye Infirmary.

THE function of the lachrymal gland is sometimes so active, irrespective of emotional excitement, that a greater quantity of tears is secreted than can be carried off by the derivative passages, constituting the well known symptom termed "epiphora".

On the other hand, it is, in a few rare instances, so passive, that the power of shedding tears is suspended, or nearly so; and then lachrymal xeroma (*ξηρός*, dry, and *ὄμμα*, eye) is, in the technical language of ophthalmology, said to be present; not that the eye appears dry to an observer, but it feels so to the patient.*

This phenomenon has been hitherto described in ophthalmic works, either as a symptomatic, or as a sympathetic affection only. In the following case, it seems to be idiopathic, and hence its interest to the profession.

CASE. A strong healthy boy, 22 months old, the offspring of healthy parents, was brought to me at the Birmingham Eye Infirmary in May 1853, in consequence of having two small opacities upon his right cornea.

The mother stated, upon one of his visits, that he had never shed tears but once, and that was after he had been left in a room by himself for an hour, when two drops were observed upon his cheek.

I made the following notes:—The eyeballs are prominent, and subject to a slightly rotatory motion, which is only noticeable upon minute examination; there is no opacity of the lens, or of its capsule, to account for this oscillation. The natural movements of the two globes are consensual. There are no indications of amaurosis. The irides are blue; their apertures contract when suddenly exposed to light. The conjunctiva and derivative passages lined by it are normal. The surface of the eyeballs is bright and shiny. In fine, with the exception of the corneal opacities, the structures of the eyes are quite healthy. Digital examination detects no abnormality in the lachrymal gland. The opacities are referred to an ophthalmia that affected the child when two months of age; since then, he has had catarrhal conjunctivitis. No relative of the patient has been affected with a similar lachrymal peculiarity.

The question naturally suggested by the narrative was, whether any tears were secreted? Were the two drops, once observed to bedew the cheek, merely serous exudation from a highly congested conjunctiva? With a view to determine this point, and to aid the absorption of the

* If it were not that a change of nomenclature always entails a degree of inconvenience, I should be induced to suggest the abandonment of the term lachrymal xeroma, as conveying an erroneous idea of the actual state of the ocular surface, and the substitution of lachrymal acrimia—*ἀκριμία*, to separate—a paucity or non-secretion of tears. And I would limit the word xeroma to that diseased condition of the conjunctiva which is attended by a loss of the characteristics of mucous membrane.