Epithelial Cancer
its
Pathology and Treatment

Joseph Bell.

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1859.

Of the constitutional cachexy

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General Summary.

The great clap of Diseases, united under the general term Cancer is & must always be, one of the most interesting as one of the most painful subjects of study as well to the Physician, as to the Surgeon.

Known & feared from the earliest ages of which we have medical records, it is not till within the last few years, that the intimate analomical structure of cancerous growths has been investigated

The old names, some expressive, some again farfetched, are numerous and as vague as complicated, and it would be an endless task to consider them, and the various theories with which they are con-

rected, besides the results would be of little practical value. —

But since the commencement of the present century and especially within the last 20 years, much patient, minute; and accurate study has been devoted to the subject, and has cleared up much both as regards its Pathology & Anatomy, especially the more minute anatomy as revealed by the microscope —

But while acquainted with its intimate structure, we have as yet found no specific to abate its malignity - and though the knife of the surgeon, wielded with the greatest skill & daring, may for the time remove its outward manifestation; alas; how seldom can he extirpate the disease.

Cancer, What is a Cancer?

Cancer is now a general term applied to all varieties of malignant growths. This however is merely substituting a new word for an old & we must now ask what constitutes a malignant as distinguished from a simple growth.

This is a very difficult question to answer, and (strictly speaking) never can be answered. And why? Because in Nosology, as in Nature there are no abrupt transitions, No sharp line of demarcation has ever yet been, or ever will be drawn between simple & malignant tumors. But practically we can by establishing certain characters which we say are common to most malignant growths, keep the most marked cases of each separate in a manner useful for all practical purposes, though we cannot prevent, the less strongly marked specimens from running into and being confounded with, each other.

The following are a few of the most important & practical distinctions between simple and malignant growths.

Walshe on Nature & Treatment of Cancer.
Lond 1846. p. 4.

not given as an exhaustive scientific summary of the distinctive characters, but simply that they may be applied either singly or together as tests of the character of any tumour or ulcer the nosological position of which might otherwise be doubtful

1 Malignant growths possess in a high degree, the property of infiltrating the normal tissues Walshe, lays especial steps upon the circumstance that "Cancer is an infiltrating growth..." he says. "There are certain formations of this class (growths) which while they act on the tissues in the manner just referred to tend also to spread amid the elementary molecules of those tissues, to cause atrophous destruction of existing particles, and prevent the evolution of similar new ones.

Such is the nature of the process known as infiltration, a process to all appearance assimilative in its effects, of conversion or transformation of the original tissue into material identical with that of the New growth. × × × a single genus of

Maladies Cancereuses Paris 1851.

Bennett Cancerous & Cancroid Growths p. 170.

formation represents the subdivision of infiltrating growths, This genus is Cancer"

Lebert also speaks of the fibrous appearance of Cancer generally infiltrated with a milky juice.

2 In malignant growths certain corpuscles are present, infiltrated among the meshes of a fibrous structure - These corpuscles or cells, as seen under the microscope, vary in form and size, but are so far united in that they are governed by the same law of developement, i.e. endogenous., and generally rapid increase by means of nuclei & nucleoli, at first contained in — and eventually liberated from — a mother-cell.

Lebert., one of the strongest advocates for the power of the microscope in establishing a certain diagnosis in doubtful cases, at one time regarded the presence or absence of a certain cell pathognomonic, & believed that the true Cancer cell could always be distinguished from every other cell formation - but there seems to be no

Bennett op. cit p. 170.
Paget op. cit Vol. II, p. 300.

Traité pract. des M. Cancereuses. p 16.

doubt that this is incorrect and that the opinion given by Profs. Bennett Paget & Müller is the true one, viz that no single element is diagnostic; but that when such cells as have been described, are found infiltrated among the meshes of a fibrous structure, in a certain manner; the diagnosis of the cancerous nature of the substance can be given with tolerable accuracy.

Indeed Lebert himself in a later work from which we have already quoted, admits this "An isolated cell being given, is it possible always to recognize, by microscopic examination whether it is cancerous or not, we will unhesitatingly reply in the negative. But the question we have always endeavoured to solve is the following, a morbid tissue being given, can be discover by microscopic inspection whether it is cancerous or not? To this we do not hesitate to reply in the affirmative" — But even in this wider sense the microscope cannot be regarded as infallible. The cases in which M.M. Velpeau & Lebert differed as to

Symes. Principles of Surgery. Ed. 2da. p. 65 Edwin Malgaigne

Rokitansky Path. Anatomy V. 1. p. 404.

the name by which they should be called shewed by their results, that for all practical purposes, the practised eye, the delicate touch & the vast experience, of the great Surgeon, were more to be relied on, than the opinion of the eminent microscopist trusting only to his microscope

3 Malignant growths tend to soften, ulcerate and the ulceration when once established manifests no disposition to heal, "makes no advance towards reparation but proves truly specific and incorrigible".

4 Malignant growths result in - or are connected with a certain morbid state of the constitution, dyscrasis of Rokitansky, manifested in the hasty successive production of new cancers (in the terms are synonymous) in other parts or tissues of the body. or perhaps terminating in "marasm of the blood anaemia" the more readily as nutrition is interfered with.

This may the proper place to ask, what is the seat of this morbid state,? Is it

Paget vol. ii. 535

Rokitansky vol i p 385

a condition of the blood or of the tissues? If of the blood a change in what, in its chemical or physical characters? To these questions we cannot give in the present state of Science a satisfactory answer.

We know that probably the "whole constitution of the blood is not perverted", for we see nutrition & growth going on long after a cancer has made its appearance. Also there is no visible element in the blood which can be recognized as a cancer-structure except where detached pieces of cancerstructure have entered the vessels as a mere result of physical communication between the vessel and the diseased part.

Again with regard to the chemical theory which is principally held by the Vienna school of Pathologists with Rokitansky at their head. In it the so called "Cancer crasis" is regarded as one of many, all of which come under the head of Abnormoses (hyponoses of Simon). "in which the blood is characterized by deficiency in fibrin by preponderance of albumen & generally speaking, also

of blood globules. --

The Cancer dyscrasis; in it the blood affords evidence of the too great quantity of albumen by the presence frequently of albuminuria. cadaceous infiltrations of liver spleen & kidneys. by inflammatory products. albuminous white emulsion like in part slowly solidifying ulcerating or cancer forming exudates. This frequently coincident with abundant fat-formation.

The dyscrasis is especially in voluminous exuberant cancers of acute growth and of the medullary character. This state of the blood may be either primitive, or developed secondarily out of a multiple local cancer.

The whole subject of the chemistry and constitution of the blood in disease & even in health has still to be thoroughly investigated, and it seems probable that a time will come, when the attention of men of Science will be more directed than it ever has been into the realm of chemical physiology & physiological chemistry, and that great discoveries will be made which will advance the practice of our art as far again as within the last half century it has advanced. with the aid of the

to such
anatomico-physiological researches, this age
has given birth.

Another view may be taken, viz that the
tendency to cancer formation is not so much
in the blood, as in the tissue of the part
at least on the first manifestation of the
disease. This view would have it, that some
morbid alteration takes place in the inherent
properties of the blastema, causing an altered
selection from the blood vessels of the part, and
a corresponding change in the tissues formed.

Thus the connection tissue of a healthy mamma
receives a blood. This perhaps acts after a little
as a stimulus to assimilation, some unknown
change in the selection powers of the tissues, begins
development of cells commences in the part, with-
out a due development of stroma; the cells
have no tendency to organization, but they
run together form mapes; alveoli in the
meshes of the scanty stroma The surrounding
tissues become implicated in this rapid growth
lose their vitality are absorbed or sloughed, the
cells increase are ill supplied with blood-
vessels, ~~not~~ and ill supported by the surround-
ing tissues, having also little stroma, the

cells give way when touched, and bleed; the disease is then called a fungating cancer.

If the stroma is developed along with the cells perhaps in greater proportion a scirrhus results, and a change such as we have mentioned occurring in skin or mucous membrane, the ordinary cells of the part increase and a so called epithelial growth is the result differing in no essential particular (I believe) from the so called true cancers, except in what can be explained by the situation & connections in which they are found.

Rokitansky op cit vol 1 p 285
Paget op cit vol ij p 412

Virchow in the Wurzburger Verhandlungen. I. 106
Paget op cit vol ij p 413.

See footnote to p. 337 of Syd. Soc of Velpeau-
on diseases of the Breast.

Anatomy of Epithelial Cancers.

Position These growths are confined almost exclusively to the mucous membranes and common integuments – On the mucous membrane of larynx trachea stomach rectum bladder & tongue. On the integumental & subcutaneous structures of the lips & face, scrotum. glans penis, prepuce & external labia, more rarely of the trunk extremities ears and eyelids. and very rarely as a primary disease it attacks the inguinal lymphatic glands. As a secondary disease it is common in the lymphatic glands in anatomical connection with its primary seat. Instances are given though they are very rare of its occurence in the lungs. liver & heart.

Mr. Quekett states that he has examined at least 6 cases of epithelial ? cancer of the mammary gland, all which cases had been supposed to be cancer. Scirrhus, but had no enlarged glands in the vicinity, The appearances presented were as if the milkducts had become choked with

reasons not good in Lee p. 28

Wedl. Path. Hist. Syd. Soc. 1855 p. 544.
Paget op. cit. vol ii. p. 412.
Lebert op. cit. p. 665.

Wedl. op. cit. p. 550.

Epithelium, had distended & burst, and as if subsequently the epithelium had continued to be secreted in enormous quantity Even granting that this was epithelial cancer & other observations are wanting, it is a rare form of the disease

In considering the Anatomy & Pathology of Epithelial growth. I omit the cancers of the uterus & its ovary, both because these are not generally included under the head of what Surgeons call Epithelial Cancer & also because that organ seems to be the seat not of one, but of all the varieties of malignant disease, which seem to blend with & result from one another in the most perplexing manner. — —

By far the most common seats of Epithelial cancer are the lower lip at or near the junction of the skin and mucous membrane; next in the penis especially the inner surface of the prepuce and glans.

3. Epithelial Cancer or a disease very like it is common in the Scrotum in some parts at least of this country though it appears to be almost unknown in the Continent as coe-

Rokitansky op cit I 284

Op cit 543

shall see hereafter, while this Epithelial Cancer of the anus is pretty common there which is one of the rarer forms in this country

It must be noticed that these growths seem to select as their place of attack, the very point where the mucous membrane and the common integument join each-other.

External Character and appearance.

These are not easily described in a few words, as the forms which Epithelial Cancer takes are very numerous, the variety depending both on differences of position, and on the age and condition of the tumour.

They most frequently occur thus

On the skin; presenting a warty foliated surface overgrown with luxuriating papillae, but this is only while they are yet young before ulceration has begun. Wedl gives as a special feature in the external appearance of epithelial cancers that they have a botryoidal character, which is very expressive of the appearance presented by the clusters of papillae when cleared from the detached

Paget op cit ii 417.

epidermal scales., and the foul ichorous discharge which is usually present.

The papillae are generally flask shaped pyriform or conical, apparently very vascular and their surface, when the thin opaque cuticle which covers them is removed, has a pink vermilion or bright florid hue.

Sometimes the granulations are very coarse and large., and divided into apparent lobes by deep clefts., Sometimes they grow out in a conical form., covered with many layers of a thick hard scab.

I have seen one removed from the under lip fully half an inch long and little more than quarter of an inch in diameter at the base This form as Mr. Paget observes is often not easily distinguishable from syphilitic rupia.

In shape & appearance the tumours are Protean but the same plan of construction is seen in them all.; viz the papillae enlarged altered and showing on microscopical Examination the cancerous elements which are soon to be described.

With regard to the papillae the follow-

op cit vol ii p. 420.

Not correct — Sept whereas Cameron?

-ing sentences of Mr. Paget are most important. "Herein is the essential distinction between a simple or common warty or papillary growth, and a cancerous one, or warty cancer, In the former the papillae retain their natural structures; however much they may be multiplied or changed in shape or size, they are either merely hypertrophied or infiltrated with organized inflammatory products; however abundant the epidermis or epithelium may be it only covers & sheathes them.

But in the warty cancer the papillae are themselves cancerous; more or less of their natural shape, or of the manner of their increase may be traced; but their natural structures are replaced by cancer structures, the cells like those of epithelium lie not only over, but within them.

Lebert though at first he appears to differ really gives the same description. If we examine cancroid tumours, projecting and mulberry shaped still not ulcerated, or if we take the hard and warty borders in cases where ulceration is already established

Gesammelte Abhandlungen. p. 1018.

we shall only find the same papillae with a notable augmentation of vascularity and nutrition, the papillae in a word, notably hypertrophied, and having the superficial layer much "thickened," then half a page on he adds. "Combined with the papillary hypertrophy we find in the morbid tissue, epidermic cells in all degrees of development" but differing from common epidermic cells in having a more voluminous nucleus, and an unusual development of nucleolus, in other words having all the characters of malignancy, therein in increased endogenous development.

Again Virchow adds the weight of his authority. Papillary hypertrophy with enormous development of cells on the surface is still not (necessarily) cancroid; it consists rather in this, that cavities alveoli occur in the inside of the diseased organ which are filled with cells of an epidermoid character.

While yet in the young state (before ulceration has begun), epithelial cancerous growths

op cit i 415

Paget op cit ii 428

may be divided as has been shewn by Mr. Paget into two varieties — The superficial or outgrowing and the deepseated. There is of course no sharp line separating these two kinds as there are many specimens transitional and intermediate. Sufficient observations have not been made to ascertain the relative frequency of these two kinds in different positions. Deepseated ulcers are more frequent on the tongue, and superficial ones on the mucous surfaces, especially of the genital organs. Deepseated tumours with submucous or subepidermal infiltration which do not shew through the skin or the mucous membrane, by destruction of these parts; are very rare as a primary disease, though as a secondary disease after long continuance or removal of superficial tumours they are not so uncommon.

op cit , 285

sic ! Wedl

Microscopic characters of Epithelial Cancers.-

In examining a morbid growth we have to notice both the cells & the blastema if there is any in which they are imbedded

I. The cells of different kinds.

(a) Cells called by Paget Epithelial Cancer-cells. He describes them as round, or round-oval with an outline seldom regular, having a nucleus, which is usually single, small, and central. The cells are generally large from $\frac{1}{1200}$ to $\frac{1}{200}$ of an inch in diameter are often prolonged in one direction, or angular. Rokitansky regards these cells as perfectly analogous, both in themselves and in their development with the epidermidal or greater epithelial cells of the tessellated structures. The mature older cells are often of "gigantic dimensions", flattened, & liable to changes in shape being sometimes prolonged into processes. They are also liable to a form of fatty degeneration, in which the place of the nucleus is taken by a group of oily-looking molecules, which increase in number and size till the whole cell appears filled.

Op cit 1,28

Lic Weal.

Surf. p. 23 –

Op. cit ii 437

with them

These cells can be traced through all these changes through all these gradual steps of developement to be in reality true epithelial cells altered it is true by some change in the law, which governs their developement, which change we in our ignorance of its cause, call degeneracy but which certainly in the rapid growth in the rapid endogenous increase, which it causes, shews no symptoms of premature decay.

The second element which we find in a microscopical examination of epithelial cancer are free nuclei. These nuclei, Mr Paget says he could not distinguish from the nuclei of Schirrhus or Medullary cancer when seen apart from the other cancer structures, and he believes these occur in the greatest abundance in the most acute cases. This last remark is, I conceive one of the very greatest importance tending as it does to the inevitable conclusion, that there is no real line of

What are Cancer Cells? identical with those of Epithelium —

distinction between epithelial growths, and the (so called) True Cancers, except (as will afterwards be seen) what depends on difference of position, vascular supply &c—.

Mr. Lister in some admirable lectures on Cancerous growths drew the attention of his class to this circumstance, viz the striking resemblance between these epithelial nuclei & true cancer nuclei, and mentioned that in a case otherwise a most distinct case of Epithelial Cancer, no Epithelial cells were found, but only numerous & most striking Cancer nuclei.

3 The third form consists of Cells called by Paget blood cells or endogenous cells. They vary in appearance, but are generally complex. This is the result of one or more nuclei enclosed within the cells, which tend themselves to assume the character of nucleated cells. Rokitansky describes these cells, and explains them, by considering them parent cells, within which occur a second generation of cells, a developement indicative of an alveolar disposition in the other tis-

rounding elements. This alveolar character we have already seen noticed & brought prominently forward by Virchow, in his paper quoted above.

In another place Virchow speaks of these large vesicular cavities, as reproductive spaces (Brutraüme) in which an endogenous nuclear or cell formation goes on.

Wedl agrees with these observations so far as to consider, these vesicular spaces to be nuclei altered in their development but has not been able to observe a new formation of nuclei within them, and hence doubts their reproductive character. His negative observations, however cannot outweigh the united positive observations of Paget Virchow & Rokitansky

Lebert describes these same structures as very large cells, with a very voluminous nucleus, and which resemble cancer cells in the unwonted development of the nucleolus

Dr Bennett in a case of 'Cancroid' of the lower lip, figures and describes cells taken from the softened substance covering the ulcer, as having like the preceding

See Summary – p. 20

op. cit. p. 617

Large nuclei, but containing oil globules sometimes very much crowded together, instead of, as in the others nucleoli in a state of rapid development. - The varying descriptions of what was found in the field of the microscope can all be explained, by the various conditions in which the parts or tumours from which they were taken, were; thus I doubt not, the cells in which rapid cell development with nuclei & nucleoli, was going on, were derived from tumours still increasing in size, while again cells taken from the soft pultaceous matter at the bottom of an old ulcer would no doubt be found to display disintegration & degeneracy -

4

Another and very remarkable cell formation seen in Epithelial cancers are the laminated corpuscles of Paget first I think described by Lebert under the name of 'globes epidermiques' He describes them as ovoid or spheroidal bodies, composed of a true concentric arrangement of epidermic cells in such close apposition that these globules assume almost a fibrous appearance. They are large, often

Ueber die Pepste, Wien 1849

op. cit p. 617

visible to the naked eye. but generally from $\frac{1}{500}$ to $\frac{1}{100}$ of an inch in diameter
They contain granular matter nuclei or cells., which are not distinctly seen till after the addition of Acetic Acid.
The only mode of Explaining the formation of these cells is the one brought forward by Rokitansky - in his Essay on Cystic formation - Suppose that one of the primary nuclei (we spoke of under the third head.) to contain four secondary nuclei, and that one of these secondary nuclei grows out of all proportion to the others, it will compress these others between its own & the cellwall, and thus invest itself in a capsule, which is apparently laminated; A great complexity of similar events may account for the formation of these globes epidermiques each of which as Lebert very naively suggests may be called une cellule grandissée if the name of 'cellule mère' be not thought to be sufficiently descriptive. He regards these globes epidermiques as pathognomonic of Epithelial cancer as he never met with them except in Cancroide of the skin

op cit ii 440.

x a good proof that epithelioma is not necessarily what he calls cancerous —

Rokitansky	i. 285	opera citata
Wedl	547	
Bennett	94	

tongue or neck of the Uterus
Paget considers them very characteristic of - though not absolutely peculiar to - Epithelial Cancer; he has met with them in epidermidal & sebaceous cysts, and has seen a corresponding mode of formation in the many nucleated cells of Myeloid tumours.

Having thus alluded to, as far as can be done in the limits of this Essay. the cells which form Epithelial growths we must now notice the stroma in which these cells are arranged. The Stroma or connective tissue seems in most cases to be very scanty, almost imperceptible. It liberates the contained cells either under gentle pressure or after acetic acid has been added. It consists of elongated cells with slender nuclei, arranged in bundles and enclosing areolar spaces, which areolæ are completely filled with groups of cells. This scantiness of the stroma is one of the chief points of difference, in the structure of Epithelial Cancer & that of Scirrhus.

Wedl op cit 543.

Rokitansky op cit ii 286

or fibrous Cancer. — It cannot however be used as an infallible diagnostic sign to separate Epithelial & the so called true Cancers, as in well marked Medullary Cancer, places are frequently observed where the fibrous stroma has been replaced by flattened cells. Notwithstanding the Scantiness of the stroma a fibrous structure is often visible in epithelial Cancers. This results from a secondary arrangement of the Epithelial cells, in Cylindrical or facetted fibres which unite together into fasciculi

Having thus shortly gone over the anatomical & microscopic characters of Epithelial Cancer, it is so far proved I think that the structures we have investigated possess in their anatomical & vital character, two at least of the tests of Malignancy already stated. viz. Power of infiltrating tissue and rapid endogenous cell developement. And if under the head of Pathology we find that they ulcerate without any tendency to heal, and that when removed they are apt to recur either in the

Original situation or in other organs, they may justly be considered cancers of the tissues in which they occur. – viz the Skin and mucous membranes.

Pathology of Epithelial Cancers

And first a few words regarding the general Pathology, before taking up the Special Pathology & treatment of some the more important and interesting varieties

Several general points to be noticed

1. Frequency in the respective Sexes. —

In cases in which the parts affected are common to both sexes, the Male sex is found to be most liable. Out of 105 such cases. 86 were in men, only 19 in women.

In cases attacking the sexual organs, if cancer of uterus is omitted for the reasons mentioned above & scrotal soot cancers as having a specific cause, the proportion is nearly equal.

The apparently greater predisposition of Males than of Females to epithelial cancer, may be accounted for, thus. It will be found that the great difference is in the numbers of the cancers of the lower lip & tongue which are very much more common in the Male sex.; Now in very many of these cases, the disease is referred by the patients themselves & in most cases, probably truly, to moderate Smoking & especially with a short pipe.

Lehrt op cit p 430

Hear what Lebert says on the subject.
" Out of 18 cases of Cancroide of the lower lip only three were females, Cancroide is a Malady 'sui generis' but it can be provoked and considerably aggravated by predisposing causes. Phymosis a predisposing cause of Cancroide of the penis — also the greater part of the patients operated on for cancer of the lower lip are smokers who for years have smoked short pipes, but there are only occasional Causes and it is not the case, that everyone who has had phymosis at any period of his life, dies of cancer of the penis, or that all smokers of short pipes die of cancer of the lower lip

2. At what age do these tumours occur
The most common age is from 40 to 50. that is to say of a certain number of Cancers the largest average will be found in that decade, but if we take the proportion of persons alive at each of the successive periods, we find that the liability to Epithelial Cancer regularly increases, with increase of age.
The relative frequency at different ages, however varies with the part of the body which is de-

op. cit ii .. 473

op cit p. 658

op cit ij p. 460.

leased, and in noticing the most common seats of the disease we will give the age at which each is most common. — —

3 What is the average duration of life from the time at which the tumour began?
From 38 cases quoted by Mr Paget, the average of abnt 44 months in each is obtained but he thinks that abnt 4 years is probably the true average duration. This is abnt the same average as Lenthus has, and a very much better one than in medullary cancer in which the average duration is just abnt 2 years. Lebert gives a list of 50 which give an average of abnt 6½ years but as he omitted some cases of cancer of the tongue, which generally has a much more rapid course his average must be considered too high.

4 Are Epithelial Cancers hereditary?
Paget has collected several apparently very clear instances of the hereditary nature of scrotal cork cancer, but too much stress must not be laid upon these, as in each case the affected persons pursued the same

All medical practitioners know that bleeding [illegible] more or less =

Med. Gazette 1834. p. 579.

employment, and were liable to the same disturbing influences, but in some other instances, he demonstrates in the most unassailable manner, the intimate hereditary connection which exists between epithelial & the so-called true cancers. In a long series of cases we see the females of the different family circles, dying of cancer in the breast or uterus, while the fathers uncles or brothers suffer from epithelial cancer of the lip or tongue While out of 116 cancer cases interrogated by himself, one only was aware of any member of the family having had a simple tumour.

Has epithelial cancer, that tendency (without doubt possessed by Sarcoma and Encephaloid) to contaminate the constitution, and appear secondarily in one or more organs and situations, even after the primary disease has been excised 2.

It does not appear to have this tendency nearly so strongly as the others, but that in many cases, secondary recurrence takes place, cannot for a moment be doubted, for example, take a case in which a

marked cancerous cachexy. was justified by finding after death Cancerous Nodules in the heart and liver, the patient having died of widespread epithelial cancer of the lower lip and chin. —

We may seek for at least a partial explanation of the Lep malign nature of these Cancers in their anatomical position; at a distance from — and closely connected with — the great organs of the body, and also from the fact that from their position, their presence is early detected & they are put under treatment early, while yet there is time.

For the consideration of the special pathology and treatment of these growths the best and clearest way will be, to examine the positions in which they are most common most interesting and at the same time most amenable to treatment, and under the head of each to give briefly an account of the Special pathology and Treatment combined

Three of the most common, interesting, and practically important seats of the disease are the Lip. Tongue and penis, and to these may be added Scrotal. Foot cancers. Which is interesting from its frequency in some place & rarity or absence in others; its almost specific cause. and its great obstinacy.

Of the Lower Lip.

The upper lip is very rarely found to be affected with Epithelial Cancer., and hardly ever except from extension of the disease from the lower lip. This preference for the lower lip cannot will be explained except from the much greater mobility & hence perhaps greater exposure to irritation to which the lower lip is subjected. The disease generally begins in the form of a small tubercle in the substance of the skin or mucous membrane., but is rarely seen by the Surgeon in that state, as from its position it is constantly exposed to irritation of the tongue. teeth, and upper lip., and hence is liable very soon to ulceration.

Chelius Surgery. (Smith) vol. II p. 773

Rodent ulcer of Paget
Hawkins Med Chir Trans. v. xxi p. 78.—
Brodie Lectures on Pathology & Surgery.

At first, and sometimes for a considerable time the small ulcer that forms on the top is covered by a scab, which is constantly removed by the irritation and constantly grows again. After a certain time however which varies in different cases, this is succeeded by a deep rough ulcer, with foul discharge which when rubbed off discloses the exuberant papillae already mentioned. The edges of the ulcer appear raised and greatly indurated. This ulceration spreads with greater or less rapidity, unless checked, involving the tissues in its progress, so at last it may destroy skin, mucous membrane, mucous glands and even the bone itself. There are some other ulcers which without a microscopic investigation, may be mistaken for true cancer of the lip; such as Sores occasioned by the presence of bad teeth; Syphilitic sores &c. One from the differential diagnosis of which is rather difficult is the one described by Mr. Hawkins, and Sir Benj. Brodie as the 'phagadaenic ulcer of the face in old persons' or more briefly the cancerous ulcer. This presents the

Lebert op eet

appearance of a soft tubercle, covered with smooth skin, is very slow in its progress, sometimes remaining almost stationary for years, and beginning to ulcerate only when the patient gets old. When it does begin it spreads slowly but constantly, but is unlike epithelial cancer, in being strictly local, and shewing no tendency to recur after complete removal. On section such a tumour appears from a solid, on microscopic examination it shows no trace of epithelial or cancerous structures, nor is it ever attended by any disease of the lymphatics.

As regards the sex attached, we have already seen that males are much most subject to it, perhaps for the reasons given.

Sufficient observations have not been made regarding the duration of this form, but from the statistics of Lebert we find the average duration to be about $3\frac{2}{5}$ years.

The usual age at which it first appears is from 45 to 50. This may help to distinguish it from the 'cancroide' tumours of the face of Lebert, which are really rodent ulcers, and which do not usually appear till

about 20 years later in life rarely beginning to be troublesome till past the age of 60.

Progress If left untouched the ulcer extends both superficially and in depth, an abundant purulent secretion bathes its surface., which surface as the ulcer gets deeper., becomes the seat of frequent haemorrhages. The lymphatic glands adjacent usually become cancerous sooner or later., as the disease is slow or rapid, and exhibit on section the same structure as the tumour of the lip. Soon they too ulcerate, and at this stage, the patient is generally carried off by exhaustion, induced by the foul foetid ulceration, the haemorrhage from the opened vessels, the digestion destroyed by the loss of the saliva, which can no longer be retained; and but rarely from contamination of the constitution, or the secondary appearance of cancer in other organs.

We come now to the most important question viz Treatment. Much has been said and written about it, but the question is simply this. Is the tumour, once proved to be

Symes Principles of Surgery Ed. secunda p. 433.

Syme in loco citato
Chelius op cit vol ii p 774.
Fergusson's Pract Surgery. p. 521.
Lebert op. cit p. 656 &c &c.

really Cancer, to be removed or let alone?

Before the tumour has been proved to be cancerous, different plans may be tried to give it a chance of healing such as Silence, rest, removal of all possible causes of irritation. But once proved to be cancer is it to be removed? and if so How? The highest surgical authorities are all agreed that the tumour should be removed and that as early and as thoroughly as possible. In a good case, where the glands are intact, the ulcer not very large, and the general health satisfactory, the operation has a fair chance of completely removing the disease, and it has been considered to be one of the most favourable situations as regards the non-return of the disease.

It is to be feared however that the chances in the patients favour have been exaggerated by the fact that sometimes, Syphilitic and other sores not malignant are removed and enrolled as epithelial Cancers.

Mr. Paget thinks that a very moral prolongation of life, is in most cases, gained by removal, but that the operation should be

Prof. Symes. Clinical lectures

performed, as there are plenty of cases, in which a very long period of health—, and some where permanent recovery—has followed the operation, Excision may be performed more than once in the same patient as a palliative, and a means of prolonging life, but with little hopes of ultimate recovery.

Removal of the tumour ought in all cases to be performed by the knife or scissors not by caustics which are tedious painful and uncertain.

Modes of Operating

1. When the tumour is not very large and the lips are pretty full, two cuts enclosing a V shaped piece of the lip should be made. These cuts should meet at an angle so acute as to admit of accurate apposition of the cut surfaces, which should not be brought together till bleeding has entirely ceased, and should then be secured by several points of twisted suture. Great advantage will be gained by the introduction of a single stitch in the upper part, just where the

Richerand's Histoire de Progrès p. 218
Syme op cit p. 434
Chelius do vol ii p. 714

skin passes into mucous membrane.

2. When the disease has attached so much of the lip, as to render the deformity which would result from the V shaped incision (if performed) too great, the plan proposed by Richerand, and recommended by Profrs. Syme and Chelius. is, to seize the diseased part with catch-forceps, pull it up, and cut off through the healthy part by a slightly sweeping cut with a pair of curved scissors. This is only admissible in cases where the disease is superficial and yet so extensive as not to admit of the simple V shaped incision. After removal the edges of the skin and mucous membrane should be stitched together.

3. When the whole of the lip is so deeply affected, that the two former plans are impracticable, a cut from either angle of the lip obliquely outwards, may be of use if in loosening the textures, and enabling them to meet after the extensive removal, a recourse may be had to one of the various cheiloplastic operations of Jalicotius Von Graefe, Dupuytren, Roux de St.

Contributions to the Pathology & Practice of Surgery p. 296

Edinr Journal of Med. Science 1850 p. 148

Maxmin or Dieffenbach. But when these operations are undertaken to remedy a deformity produced by Cancer, the prognosis of any ultimate success, must be very unfavourable.

4.

Far better than any of these cheiloplastic operations mentioned, is the procedure invented & recommended by W. Syme. in which, by cutting outwards & downwards towards the chin, from the angle of the V shaped incision however obtuse that may (from the size of the tumour) have to be made, flaps are obtained which on being brought together make a new lip with far less displacement, and hence with a much higher vitality, and better chance of success than by any other method.

Already are many instances of the good results of this operation.

Having thus gone over the Treatment of Epithelial Cancer of the Lip, the pathology and Treatment of the other most common forms can be gone over more rapidly.

Lebert op cit 429.

2. Epithelial Cancer of the Tongue.

This is one of most painful of all cancerous affections and at the same time one of those most prone to rapid return.

Lebert remarks that cancer of the tongue is remarkable for the large size and rapid endogenous developement of its cells, which contain numerous nuclei & granulties of free nucleoli. Here as well as in Epithelial Cancer of the lip, there are several other kinds of ulceration which simulate the true cancer, such as. Syphilitic & mercurial sores ulcerations dependent on chronic derangements of the digestive organs, and on local irritation as from decayed teeth &c.

All these however will generally yield to treatment constitutional or local, true Cancer does not. It generally begins with a hard circumscribed swelling, which soon breaks, and spreads into a foul ulcer. The pain is sharp and lancinating. Once begun the progress of the cancer is rapid. Even if speaking be forbidden, the organ gets no rest, the presence of the

Lebert op cit p 432

Walshe op cit p 261

op cit 435

Med Chir Transact Vol XV p 246.

op cit p 434.

foul ulcer irritates it, renders expectoration necessary, and every movement aggravates the disease

Left to itself the usual duration of the disease is from a year to 15 months, and constitutional poisoning is manifested to a very intense degree. There are differences of opinion with regard to the sex and age usually attacked by this disease. W. Syme says that it occurs at an advanced period of life and is more frequent in females than in males. W. Travers says that strong healthy males from 40 and upwards are most usually subject to it. Lebert fixes the average age at about 47. But cases are on record in which it appeared at a much earlier age.

It may cause death in various ways. By opening the lingual arteries it may produce haemorrhages constant & uncontrollable — by spreading backwards to the soft palate and larynx it may suffocate — by obstructing deglutition and digestion it may starve the wretched patient.

Treatment. The only remedy when the

op cit p. 247 (Vol XV of Med Chir Trans)

op cit 437.

op cit p. 435.

+ But if examined carefully it need not be so.

first attempts to check the progress of the ulceration have had a fair trial, and proved futile is extirpation of the disease.

But this fails, Travers has seen but one case, where it did not return within the year. Lebert says "The operation can only interrupt without retarding the progress of the disease. Syme says "The result of experience forbids almost any hope of effecting permanent relief by extirpation" And why? Because the disease has not been removed, For the whole muscular tissue of the org. vascular organ rapidly becomes infiltrated with fine cancer nuclei, and, remove the affected part as you like, by ligature, caustic, or knife, while there is a fibre of the organ left the disease will return in that fibre

Different methods have been proposed for the removal of the diseased part, of these the knife or scissors seem to be preferable to ligature, which is painful & uncertain And the objection raised against the use of the knife viz that the haemorrhage is uncontrollable is untenable except in some cases when the diseased part extend very far

Bulletino delle Scienze Mediche 1839.

Med Chir Italia Vol XXII

back. Many methods have been tried to render the removal as complete as possible
Thus Reynolds cut from below the chin dividing the digastrics and mylohyoids, and applied ligatures near the root. This plan was tried by Arnott in this country, with at least temporary success, but even in his case the gland was not completely removed.

The only operation which gives any reasonable hope of nonreturn of the disease is the one which has been twice in this city performed by Mr. Syme — because it alone completely extirpates the disease or perhaps rather the local manifestation of the disease. The two cases have proved fatal, not from the shock of the operation not from haemorrhage. not from suffocation from the absence of the tongue in deglutition but from causes which might have produced a fatal result after any operation of any importance — A third case in a climate more suitable, perhaps in a patient of more temperate habits and better constitution has proved successful and after nearly 9 months no return of the disease has appeared.

It is a dangerous operation but is not the disease, for the relief of which it is attempted. certain death, and that a most painful one.? It is a last resource but when other hope has failed, is not a last resource even to be welcomed. — Is amputation at the hip joint a forbidden operation, though only one in every three survive it?

Chelius op cit vol ij 807.

3 Epithelial Cancer of the Penis

This usually attacks the praeputial border of the glans, or the inner fold of the prepuce. Caeteris paribus, cases in which the prepuce is long and difficult of retraction, are more liable to this disease than others. It is often difficult to distinguish sores of a syphilitic origin from cancer.

From statistics we find that this is not nearly so common a disease, as cancer of the lip. The average age at which it usually appears may perhaps be a few years earlier than when cancer of the lip appears, but sufficient data are still required.

Treatment is on the same principle, as the others. ie removal, if the glands in the neighbourhood, the testicles & inguinal glands are not affected. Removal of the prepuce may in some cases suffice, when it alone is affected but this is very rarely the case.

Amputation should be performed at one stroke by a long knife. No flaps are necessary as the skin is rather apt to prove redundant The prognosis is not favourable as there is great risk of return even when the disease

appears to be thoroughly removed.

4. Cancer of the Scrotum a Chimney sweeps Cancer. This is a very remarkable form of disease, and though the great authority of Mr. Paget sets it in the class of Epithelial Cancers, there might be some variety of opinion regarding its true Nosological position.

There are many points in this strange disease quite unexplained. Thus it apparently depends upon a specific cause, the frequent contact of soot with the skin. Yet how is it that this result follows only in certain parts of the country, while in others the same contact produces no such effect? And how is it that coal dust is quite innocuous? Miners do not suffer from this disease. It is unknown in France and the North of Germany but this may be explained by the different sort of deposit left in the chimney by a wood fire, but in Scotland where coal is much used, this disease is hardly ever seen. Indeed it is principally confined to London & some other large towns in England. There are anomalies not easy

Travers op cit p 345

Earle Med Chir Trans XII p 296

of Explanation. The situation generally attacked by the disease may be explained by the fact, that the corrugations of the skin of the Scrotum tend to confine the soot, and thus render its removal very difficult, and thus its continual contact irritating and obstructing the sebaceous follicles of the part, induces a state of the skin, peculiarly liable to the attacks of epithelial Cancer, in those who have any such predisposition.

The disease generally begins by a hard pimple which suppurates, scabs over, is scratched and irritated, and soon results in a superficial ulcer with hard everted edges. Though by destroying the skin & cellular tissue it lays bare — it does not involve — the testicle until a pretty late period in the disease.

The inguinal glands are frequently affected and enlarged, but this enlargement often subsides on the removal of the diseased portion, though unfortunately this is not always the case., and often the disease spreads to — and involves the inguinal glands, forming a foul ulcer.

op cit 297

The usual age at which this disease comes on is between 30 & 40 very rarely under 20. It is almost strictly confined to the Scrotum. Earle mentions a case in which it occured on the wrist of a gardener who was employed in distributing Soot to destroy Slugs. Sir Astley Cooper saw it once on the cheek.

The only treatment is removal of the diseased parts by the knife. A permanent cure may sometimes be effected if removed sufficiently early before the glands become tainted. It is of course requisite for any chance of permanent advantage, that the patient should relinquish the deleterious occupation.

There are many other structures attacked by epithelial Cancers., but the ones already noticed will I trust be sufficient to prove

I. That Epithelial growths, which under the microscope give evidence of rapid endogenous cell development — in which the tissues of the part are infiltrated and crowded with such cells — which go on to unhealthy ulceration without any reparative tendency — differ as regards practice in no essential particular from the true? Cancers except in such points as depend merely on the situation in which they are found — that their progress is unfavourable — and that their treatment, when it is possible, should be immediate extirpation

II. That the fact (which is now regarded as ascertained) that epithelial growths present the epithelial cancers present the characters of malignancy in a less intense form than do the true cancers can be explained without the admission of any essential difference between them in anatomical or pathological structure

for (a) Cancer of the Skin or Mucous Membrane has not the same intimate connection with great lymphatics as eg. Cancer of the breast has — (b) being far removed from the great nervous circulatory and respiratory organs, they do not by their position & pressure exercise the same baneful influence as eg. Cancer of the bronchial glands does — and (c) that being in an early stage visible and often accessible they can be often removed and that early which is of the most vital importance as the only chance of cure

Joseph Bell.