

The  
Pathological Newformations  
of the  
Skin,  
Their History, Histological An-  
atomy, Diagnosis, and Treatment.

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Being a Thesis  
for the Degree of M.D.  
in the University of  
Glasgow.

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By  
William John Laurie M.B.

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Preface



# Pathological Formations of the Skin.

Being a description of their History,  
Histological Anatomy, Diagnosis,  
and Treatment.

New Formations of the Skin offer a wide subject of study, interesting alike to the Physician and the Surgeon. To the former, they appear as important objects of clinical study, diagnosis, and treatment, in many cases altogether amenable to the resources of his Special Department. While to the latter, they present many times objects of peculiar interest, since they often require Surgical Procedures at his hands.

Tumours were formerly divided into Homologous and Heterologous, from the belief, that many of them were composed of tissue not found normally in the human body, but were the morbid products of a diseased organism. While, on the other hand, there were many, in minute structure exact counterparts of the normal tissues. To the former, were relegated the Heterologous Tumours, and to latter the Homologous. These views are now known to be erroneous, there being no tissue present in disease, that has not its like in the healthy body.

Rejecting, then, all divisions

Pathological Formations divided into  
A Benign      B Malignant

Benign Formations  
definition

founded on minute structure, in the following pages we will look at these formations from a clinical point of view, as being the most practical and convenient, and divide them into two classes —

A Benign Formations.

B Malignant Formations.

The former of these Groups comprises only those new Formations which affect the body in a certain defined and limited area. They are usually slow of growth, and do not draw the system into sympathy with themselves. Finally, if removed, by operation they do not as a rule return.

To the latter Group, belong all those deleterious formations, which often beginning painless-ly, grow rapidly, and through the lymphatics or the blood, soon contaminate the general organ-ism. Finally, if removed, sooner or later they return, and cause death by ulceration, by marasmus, and by exhaus-tion.

The following pages are based in great part on the teaching of Professors Neumann and Kaposi, and of Dr. Riehl and Kolisko of Vienna. In the Laboratory of the last named the microscopic specimens were prepared.

The Works of Neumann, Kaposi

## Benign Formations

### I Connective tissue Formations

(1) Keloid (2) Cicatrix

(3) Molluscum Fibrosum (4) Xanthoma

depending on these Fibroma Lipoma

Neuroma Myoma Papilloma

### II Vessel Formations

(1) Angioma (2) Lymphangioma

### III Cellular Formations

(1) Rhinoscleroma (2) Lupus Erythematosus

(3) Lupus Vulgaris (Scrofulum Tuberculosis)

and Dubois of Philadelphia, contain full accounts of the various tumours of the skin. They, as well as that of Eichen, have been consulted. The short descriptions at the beginning of each disease are taken from Dubois' "Diseases of the Skin".

The Benign Formations of the Skin include the following three classes.

I Connective Tissue Formations

- (1) Keloid (2) Cicatrix (3) Molluscum Fibrosum (4) Ranthoma.

(Depending on these Fibroma, Lipoma, Neuroma, Myoma, Papilloma.)

II Vessel Formations

- (1) Angioma (2) Lymphangioma

## Malignant Formations

I Lepra

II Carcinoma

III Sarcoma



III Cellular Formations.

(1) Rhinoscleroma (2) Lupus Erythematosus (3) Lupus Vulgaris (Scrophulosus, Tuberculosus.)

The Malignant Formations.

include

I Lepra.

II Carcinoma.

III Sarcoma.

A method of staining specimens is given on page 169.

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# Benign Formations

## I Connective Tissue Formations

### (1) Keloid

definition

locality

# New Formations

## A Benign Formations.

### I Connective Tissue Formations.

#### 1. Keloid.

"Keloid is a newformation of connective tissue, characterised by a more or less irregularly shaped, variously sized, elevated, smooth, firm, somewhat elastic, reddish, cicatriform lesions"

The seat of this newformation is the cutis, where it develops, (without inflammation) wart-like, rounded, or elongated, smooth, firm tumours. These are intimately united with the cutis, and assume various forms, according to their age and situation. Thus they may confine themselves

Rebird (Continued)

description

strictly to the round form, when they look not unlike warts, or they may present branching radiating growths, extending in all directions over the surface. This form gives to the tumour a peculiar claw-like appearance, and it has thus been named the "Claw-like Growth". In either condition it much resembles scicatrix caused by burning, by the strong acids, or by ulceration. The height to which they may project above the surface of the normal tissue varies. Usually it is not more than a few lines, but may greatly exceed this. On handling one of these tumours, it is a somewhat firm, elastic, smooth body. When not inter-

Relvid

number of tumours

course

ferred with, it is, as a rule, not painful. Slight pressure causes discomfort, shewing that it has not lost the characteristics of normal tissue.

In regard to number, there may be only two or three, or as many as fifteen to twenty or more tumours. Their principal seat is the sternum and its immediate neighbourhood, but other regions, especially the chest walls, are also affected with them.

Their course is most chronic. In development, they may go on for years causing but slight discomfort. When at last they have reached maturity, they shew no tendency to change. Very rarely they come to suppurate.

Keloid

aetiology

Pseudo-Keloid



or other retrograde change.

In regard to aetiology, we know very little. There seems to be in some individuals and families, a predisposition to their growth from slight injuries. Thus, leech bites, slight lacerations, and other injuries, which, in a normal constitution, would pass away, in those with this predisposition, cause the formation of Keloid. In other cases we can trace no such cause.

Besides true Keloid, some writers distinguish a Pseudo-Keloid. This arises from injury syphilitic. It has received various names according to its presumed cause - "Psoriasis Keloid", "Syphilitic Keloid", "Warty Psoriasis Keloid", "Addi-

## Keloid

Kaposi's three forms

- 1 True Keloid
- 2 Hypertrophic Scicatrix
- 3 Scicatricial Keloid

True Keloid

sois Keloid" now known as Morphoea or Scleroderma. Kaposi distinguishes three forms, much resembling each other, (1) True Keloid (2) The Hypertrophic Scar (3) The Scicatricial Keloid.

(1) (Microscopic Specimen No: I)

In True Keloid, on microscopic examination, we see numerous fibres, whitish in colour, projecting themselves into the normal tissue around. But though displaced, these are not destroyed.

This is an important point in distinguishing True from False Keloid. Numerous spindle cells are seen surrounding the blood-vessels, most numerous in the newly formed parts of the Keloid.

Thus True Keloid is in no way

Heloid

Hypertrophic Sciatix

the result of loss of tissue. It cannot be described as a process of repair, since all the normal constituents of the tissue are present.

(2) The Hypertrophic Scar.

This form appears as the result of destruction of tissue. Microscopic examination shows that the normal tissue elements are absent. Thus there are no papillae, and no normal distribution of vessels in the corium.

The Hypertrophic Scar does not extend beyond the gap in the tissue in which it is found, but is strictly limited to the breach, which it makes good.

Microscopic examination soon after formation of the scar, shows numerous cells and few

Keloid

Scartrial Keloid

Diagnosis

fibres. Examination at a later time shows the fibres to predominate, and the cells to be few in number.

(3) In the Scarificial Keloid there is an absence of the papillae of the skin. Beneath a thin epidermis, the connective tissue fibres are to be seen, merging into the new formation. The latter consists of closely set fibres.

In regard to diagnosis, great difficulty is felt in distinguishing these three forms. On naked eye examination, they look, in many cases, exactly alike. Indeed in this way, it is usually impossible to say which form is present. Microscopic examination, however, sets the matter

Keloid

Prognosis

Treatment



at rest. As a general clinical rule however, we may decide, that the growth is True Keloid, when it is seated on or near the sternum, and when it approaches nearly to the normal constitution of the skin. Thus, when we see the papillae, the mouths of the sweat and sebaceous glands, and the hairs, the probability is, that it is True Keloid. On the other hand when these features are absent, and when there is a history of burning or other injury, diagnosis would tend in the other direction.

Prognosis is unfavourable. When removed, the growth invariably and speedily returns.

Treatment. Vidal recommends

*Sicatrix*

*Definition*

scarification with the knife, in parallel lines, vertically and transversely. This may at least remove the pain, which is often intollerable. Cauterisation with caustic potash, when the disease has come to a standstill is often useful. To promote absorption, Iodine, Lead, Mercury, as plasters, may be tried.

- Iodine                    ℥i
- Sap: Mell:            ℥i
- Alcoholis              ℥i

Applied for a few days on leather. Internally arsenic, iodine, and quinine, may be tried.

2 Sicatrix

Sicatrix is a newformation, to replace loss of tissue in the

Sicative

Characters

Formation

integument. In appearance, a healthy cicatrix is thin, white, flat, smooth, and shining. It may be slightly depressed, - Flat cicatrix, or elevated above the surroundings, - Hypertrophic cicatrix. The structure of the part is much altered. The pigment, glands, hair follicles, and hairs, are absent. Instead there is present a tissue composed of stratified dry scales.

The cicatrix is freely movable on the deeper tissues, and on the bones. Where there is adhesion to these, it proves undue inflammation and caries to have been present.

In the formation of a cicatrix there are two processes, clearly to

Sicatrix

Description of ordinary  
Inflammation

17  
be distinguished - (1) Formation of  
fleshy papillae, the granulations.

(2) Formation of epidermis.

(1) When, owing to injury, there is a breach in the integuments, a state of inflammation is set up, which it may be of importance here, briefly to notice:—

Every form of injury, is, to a greater or lesser extent, a depressor of the vitality of the part. Therefore the name "stimulant", is somewhat deceptive, when applied to mild forms of irritation. In those cases, the circulation may be "stimulated" in the part, but that is because the tone of the minute bloodvessels has, for the time, been lost, or in other words, their vitality has been lowered.

Licatrix  
Description of  
Lupannation (bowl)



The process is best studied in a somewhat severe form of irritation, as, for example, in that arising after application of a fly blister. One of the first elements of the part to be affected, is the minute blood vessels.

They immediately dilate, causing increased flow of blood to the part. (A transient state of contraction is said by some to appear before relaxation, this, if present, is very brief.) As a result of dilatation, there is immediate congestion, and at a later time, emigration of white blood corpuscles through the walls of the vessels. Liqueur sanguinis escapes at the same time, and fills the breach, forming,

*Sicative*

*Microscopic Examination*

with the corpuscles, lymph. What we call granulations, are vascularising lymph. Each of these, is permeated by a minute blood vessel, by which it gains in nourishment and strength. The excess of liquor sanguinis and corpuscles is removed, the residue forms new tissue. As the gap becomes filled, the state of inflammation diminishes, and the bloodvessels resume their normal calibre. In time, a scab is formed over the tender growing tissue, which, on falling, shews a reddish depressed area.

On microscopic examination, such a tissue is seen to consist of interlacing fibres, everywhere

Scarix

Description of Inflammation

(Cont<sup>o</sup>)

Billroth's view as to forma-

tion of blood vessels

permeated by minute looped blood vessels. The cells of which the fibres are composed are rounded, oval, and spindle-shaped. The new bloodvessels are in direct continuity with the old, and are at first solid, pear-shaped, projections from the latter, and only secondarily become hollow. (J. Meyer, and O. Weber). Other observers as Rokitansky, Weber, Billroth, Stricker, and Klein, assert that the new cells arrange themselves in parallel rows, forming channels, with which the old blood vessels form connections. When the granulating tissue has reached the surface of the neighbouring epidermis, and not till then, there

begins, the formation of epidermis over it. This commences in connection with pre-existing epidermis, viz- at the margin of the wound. At first, it is of a delicate, blue, hue, at a later stage, it is paler and firmer. A healthy scicatrix is pale, smooth, glaucous, and thin. Only J. Arnold asserts, that tissue other than epidermis, can produce epidermis. He states that it may arise from differentiation of a flow of plasma, derived from epidermis near. In this way, he does not allow constant continuity with other epithelium, which other writers insist on.

Occasionally granulations do not follow the usual manner

Sciatrix

Description of Euplammation (Cont<sup>d</sup>)

of growth, but are stunted, and dry. Or they may form hypertrophic masses. The first condition is frequently due to constitutional taint, as anaemia, scurvy, &c. Long continued irritation as that of dead bone, causes increased hyperaemia, and large sinu-atries.

The next step in the process is contraction. Pythia, the new areolae are diminished in size. Great deformities often result. On the eye, Ectropion may be produced. On the cheeks, complete closure of the mouth, or drawing in of the lower lip may arise. On the arms may be greatly flexed the hand being clasped on the palm, or extension may be



Sicative  
Therapeutics

Grafting operations

produced, causing that member to assume a claw-like form.

Therapeutics. The aim of all treatment, is to produce smooth, flat, cicatrices, and to prevent contraction. In the early stages, gentle passive motion, and friction with oil, are beneficial.

In the late stages, with great deformity, nothing is useful but the knife. All tight bands must be divided, and the gap made good by plastic operation.

When, owing to low vitality, there is a cessation of growth, grafting on healthy epidermis is most useful. Minute fragments of this, are placed on the raw surface, and fixed by sticking plaster. In several days one or more

# Mulluscum Fibrosum

## Definition

## Characters

have attached themselves.

Neuralgic pains are best treated by opium, chloroform, and occasionally by excision of the nerves.

### 3 Molluscum Fibrosum.

"Molluscum is a new growth of connective tissue, characterised by sessile, or pedunculated, soft, or firm, rounded, painless, tumours, varying in size, from a split pea, to that of an egg or larger, seated beneath or in the epidermis."

As the definition asserts, Molluscum Fibrosum consists of moderately large, soft-wrinkled, tumours, situated generally beneath the skin. They have been known to assume the dimensions of a child's head. They may be res-

In Fibrosum

Character (Cont<sup>d</sup>)

Number

25  
ile, forming raised projections from the integuments, and appearing as if a foreign body had been inserted beneath. Or they may be attached by a narrow pedicle, assuming the form of a pear or club. In colour, they are normal, or have a blue hue. Large bloodvessels run across them.

On handling, they are firm, elastic, and compressible. In some cases, so soft, that it appears as if merely a fold of integument were held beneath the fingers. Or they may resist pressure in some parts, and yield in others.

In number, there may be a hundred or more, of every poss-

M. Fibrosum

Anatomy

Virchow's view

Rokitansky's view

Arnold's view

ible shape. In many cases they interfere with the action of the limbs, as when seated near the large joints. On the forehead, they may hang down, and obstruct sight. They are also found on the female breast, labia, &c. On the face, they cause great distortion, giving rise to the name "Leontiasis."

Anatomy. (Microscopic specimen No: II) Virchow says, they consist mainly of connective tissue. Rokitausky asserts, that this pushes aside the layers of the corium. According to Arnold, they consist of large intercellular spaces, containing an expressible yellow fluid and cells. The sweat and sebaceous glands may in



*M. Fibrosum*

Fagge and Hovsis view

Kaposis view

some cases preserve their normal form, in other cases they are destroyed. Fagge and Howse maintain, that they arise from the walls of the hair follicles.

In growing, they push the normal tissue before them. Their connection with surrounding tissue is loose, owing to which they can easily be shelled out.

In older tumours, the central part is composed of gelatinous connective tissue. Peripherally, they are firmer. Thus their histological characters are those of Elephantiasis Arabum (see specimen) In the pedicle, are one or more large blood vessels.

According to Kaposi, all the known cases originated in early

# M. Fibrosum

Hela's observation

Prognosis

Therapeutics

27  
childhood. No cause can be assigned for their appearance. Hebra has noticed, that all individuals suffering from them, are weak mentally and physically.

Prognosis is not favourable.

We know of no means of bringing the growth of the tumours to a stand still, or of causing retrograde metamorphosis.

The general health, as a rule, remains good, occasionally marasmus and ulceration set in.

Therapeutics. The galvanic caustic is the only agent worth trying. The knife or scissors may remove them for a time, but they reappear soon afterwards.

*Caulthouia*

*Definition*

#### 4 Kanthonia.

Also named Kanthelema,  
Vitiligoidea.

"Kanthonia, is a new growth of connective tissue, characterized by formation of circumscribed, irregularly shaped, variously sized, non-indurated, flat, or raised patches, or tubercles."

The most frequent seat is the eyelids. In 1815 Rayner described the formation as "Plâques jaunâtres des paupières." Addison and Gull in 1851, first investigated and named them Vitiligoidea. Dr. Wilson, has proposed the name Kanthonia.

This disease has received much attention in England, from Pavy, Fagge, Smith, Wilson, and A. W.

*Ranthonia*

*Two Forms*

1. *R. Plavum*

2. *R. Tuberculatum*

*R. Plavum*

*Description*

*Situation*

Foot. In Germany, from Hebra  
Cohnheim, Waldeyer, Giesler,  
Vichow, Geber, Simon, and Kap-  
osi. In France, from Bisier  
Hilliard, Chambard, Prachet and,  
Mouard. Addison & Hull disting-  
uish two forms -

- 1 Plac. Placum.
- 2 Plac. Tuberculorum.

1 Plac. Placum. forms small yel-  
lowish spots on the skin, as a  
rule, they are flat and level  
with the surface. The edges may  
be slightly raised. Pinched be-  
tween the fingers, they do not  
give the feeling of infiltration.  
The inner canthi of the eye  
is the usual seat, but they are  
also seen on the mouth, nose,  
and alveolar arches.



R. Tuberculosis

Seat

Aetiology

2. ϕ. Tuberculosum assumes the size of tumours as large as a pea. They are slightly raised above the level of the surrounding skin. They may be very numerous, and are firm in consistence. They are found on both surfaces of the small joints, sometimes on the scalp, penis, and labia. Both forms assume a yellow colour, and both may be found in the same individual. They do not undergo retrograde changes, but as a rule persist through life.

Of their aetiology nothing is known. They have been thought to have some connection with disease of the liver, but careful investigation has not established

Plautonia

Anatomy

Proposed — Two forms

this. Icterus however is often present. Of 27 cases reported, 15 had icterus.

Anatomy. In structure Ranthoma is like fatty degenerated connective tissue. The newly formed cells exist in large numbers in the walls of the follicles of the skin. Hyperplasia of the gland cells is also seen. The vessels are widened, the endothelium and some of the sweat gland cells are enlarged. It has been thought that the process is an hypertrophy of the sebaceous glands resembling Milium.

It has been proposed to distinguish two forms, one derived from connective tissue, - Fibroma hepau-todes, and the other from degenerated sebaceous glands - Vitiligoidea.

Kanthoma  
Professor Neumann's View

Diagnosis

Prognosis

According to Neumann, the primary change, is fatty degeneration of newly formed connective tissue; the changes in the follicles being secondary.

Diagnosis. Confusion may arise between Xanthoma and Milium, especially when the latter is seated near the eye. The distinguishing feature is, that Milium granules may be expressed from their surroundings, those of Xanthoma can not.

Prognosis. Xanthoma is a life-long disease. Occasionally spontaneous disappearance takes place. According to Peenier, internal use of Phosphorus has brought about degeneration of the tubercular form.

Fibroma

Two Forms

Soft

Form

Soft

Description

Depending on the former affections, Fibroma, Lipoma, Neuroma, Myoma. Papilloma will now be briefly described.

Fibroma.

(Microscopic specimen No: III)

Fibromata are divided into the Soft, and the Firm varieties. The Soft are composed of little besides connective and areolar tissues. They are smooth, elastic, fleshy growths sometimes of great size. They contain numerous bloodvessels. Occasionally in the pedicle these are large, leading, on attempted removal of the tumour, to copious bleeding. Elephantiasis Arabum is alluded to this condition but is usually brought on by repeated attacks of inflammation. In four cases



# Fibroma

## Treatment

### Four Four

1 Epulis

2 Nasal Polyp

3 False Nevioma

4 Painful subcutaneous Tumour

Section shows

Course

the tumours measure several feet in circumference.

Treatment is unsatisfactory.

Iodine, internally, may be tried or excision, if the tumours are not too extensive in attachment.

Firm Fibromata are much commoner. The best known forms are, Epulis of the jaw, polyp of the nose, the false neuroma, and the "Painful subcutaneous tumour". On section, they are glistening, and sometimes show an arrangement of fibres in concentric circles. They are composed mostly of fibres, only a few cells are to be seen.

After attaining a certain size, they may remain unchanged for many years. At other times

Lipoma

Description

Microscopic Examination

they undergo retrograde meta-  
morphosis, and the outer covering  
sloughs away. In these cases, ca-  
chexy may arise followed by death.

Lipoma

(Microscopic specimen No. IV)

Lipoma is a tumour composed  
of adipose tissue, closely resembling  
that found in the healthy body.

Long continued irritation, as that  
of the braces on the shoulders, may  
give rise to it. It is circumscrib-  
ed, grows slowly, and is usually  
of an irregular form. Its surface is  
lobulated, owing to septa traversing  
it.

On microscopic examination, it  
is seen to be composed of minute  
lobules of fat, and a few crystalline  
bodies, the fatty acids. It contains

Lipoma

Treatment

Neuroma

Description

Myoma

Description

a large quantity of juice, occasionally giving rise to an obscure sense of fluctuation.

Treatment is excision, when they never recur. If a small portion of a tumour be left behind, it will of course grow again.

Neuroma

(Microscopic specimen No. VI)

Neuromata occur only in connection with nerves. They are composed of white fibres, and are not, except on microscopic examination, recognisable from the false neuromata. They do not cause pain and are freely movable.

Myoma.

Myoma is composed of striated and unstriated muscular tissue. Such tumours are of slow growth

Papilloma

Description

Conus

Warts

and are very vascular. A common seat is the uterus, where they are known as fibromata. In some cases they give rise to no symptoms, and are discovered only after death.

Papilloma.

(Microscopic specimens Nos: VII - IX)

Papillomata resemble the papillae of the skin. They are pointed, and contain a loop of blood vessel. Sometimes they grow as large as a cauliflower, to which they present considerable resemblance. A "corn" is a familiar example, and consists of thickened epidermis and enlarged papillae. A wart is also composed of many strata of hard dry epidermis. Warts seem in some cases to be hereditary.



*condylomata*

The hands are the commonest seat. Condylomata are similarly constituted. They are moist, being seated on mucous membrane, as that of the anus, labia. They are very vascular and bleed freely on removal.

---

## II Vessel Formations

Angiomata

Definition

Two Forms

Angiomata

Lymphangiomata

Angiomata

Description

Four subdivisions

1 Telangiectasis

2 Haem. Vascularis

3 Angio-Elephantiasis

4 Tumour Cavernosus

## II Vessel Formations.

### I Angioma.

"Angiomata include tumours composed of new growth of vascular tissue, and are not formed from dilatation of preexisting vessels."

Vessel Formations are divided into-

1 Formation of Blood vessels

2 Formation of Lymph vessels

1 New formations of blood vessels, consist of numerous minute bloodvessels or blood cavities, in, and beneath the skin. On pressure, they fade momentarily.

There are four subdivisions -

1 Telangiectasis, 2 Naevus Vascularis,

3 Aeryo Elephantiasis, & 4 Tumour

Angiomata

Telangiectasis

Description

Nævus Vasularis

Cavernosus.

1) Telangiectasis, consists of numerous minute vessels in the skin somewhat dilated, and very closely set, producing a reddish or dusky hue. It is occasionally very extensive, or may be no larger than the palm of the hand. It is commoner in the female, and is said to arise usually in middle life. It may extend rapidly, and may cover the whole body. Among the commoner seats, are the cheeks, neck, and eyelids. In some cases this form is sympathetic of other disease, as acne rosacea, or heart disease.

2) (Microscopic specimen No: ~~X~~)  
Naevus Vasculares arises in early life, and consists of abnormal

442  
development of vessels in the skin. It may be no larger than a pinhead, or may cover large areas. In colour, such are reddish, or of a dusky hue. The milder forms are but slightly raised above the skin, and appear like discoloured spots set amidst healthy skin. At other times they are prominent, standing half an inch or more above the surface. They are uneven and appear as if divided by loculi. When large, owing to the neighbourhood of great blood vessels, they have a slightly pulsatile thrill. This form has acquired the name *Angioma Prominens*, *Ulcus Tuberosus*, *Angioma Cavemosus*, *Fungus Haematodes*,

Angiomata

Naual seat



Erectile Tumour. The characteristic feature is, that on pressure, their colour fades, and returns when pressure is withdrawn. In outline they are sharply defined, and in shape various. The flat forms are called by the Germans on this account "Gefässnahe".

The usual seat, is the neighbourhood of the face and neck. Like normal tissue, they become loaded with blood on physical exertion, as laughing, coughing, &c. On fainting, they become pale. In regard to progress, no definite statement can be made. After growing for a time, they may come to a standstill, or continue again to

Angiomata

Simple Angiomata

advance. Occasionally they penetrate and replace the muscles and nerves. In intimate structure, they may undergo hardening, and become solid tumours. At another time they are so soft, as to be called "Lobulate Vessel Sponges". In old age, they may undergo retrograde changes, leading to their partial disappearance.

The Flat or Simple Arterioles have their seat in the papillary and upper layers of the corium. According as they lie deeply or superficially, their colour is red or dusky. Connective tissue forms round the vessels, and the latter may become rolled up into balls. The adjoining sweat and hair follicles share in the changes, they

Angiomata

Angioma Elephantiasis

Tumour Cavernous

etiology

are pushed aside and compressed and may be destroyed. Occasionally, there is excessive growth of nerve tissue & of flat lobules. According to which of these predominates, the tumour is known as Angioma Neuroticum, or Angioma Lipomatodes.

3 Angioma Elephantiasis is produced by excessive development of connective tissue. It presents no difference from the preceding form.

4 Tumour Cavernosum. The special feature of this is that it is supplied with a limiting wall of connective tissue. A number of compartments run through the growth dividing it into loculi. All the spaces are united to each other, and also to the large blood vessels.

Aetiology. Rokitanzky asserts that

Augiomata

Prognosis

the Tumour Cavemous arise from the wall of the vessels of the cutis. Virchow says that it exists independently of these, and only communicates with them at a later time. Rindfleisch traces their origin to a new formation of connective tissue, which originates alongside of the bloodvessels, then shrinks, thus dilating the vessels.

The smaller tumours are objectionable mainly owing to the disfigurement which they occasion. But the larger ones are a constant source of danger, owing to their extreme vulnerability. Serious haemorrhage may follow injury of even a small one.

Prognosis. This must be very guarded. There are no known

Augiuvata

Treatment

Treatment by  
Vaccination

Prof. Neumann's Case



features by which we can tell, whether a tumour will be small or large. If stationary, it is well to watch for a time before operating, but actively growing one should be interfered with.

Treatment. Ointments composed of tartar emetic are useful

as	Tartar Emetic	pts. 1.5
	Resin	pts. 1.5

Applied or wash leather for several days. Injections may be tried as

	Liq Ferri	pt 1
	Aq	pt 2

One of the most successful measures is Vaccination. In Neumann's hands it has proved most successful. The resulting cicatrix is white soft and thin. He relates the following case -

Professor Heumann's Case  
(Cont<sup>d</sup>)

"It affected a child aged two years. Both sides of the nose as well as the point were covered by a lobulated tumour, projecting much above the level of the skin. The nasal mucous membrane was also affected. Since I was not allowed to perform a cutting operation, I made trial of vaccine lymph. A quantity of lymph was prepared, and with a lancet, about ten pricks were made, some deep some superficial. On the 8<sup>th</sup> day the pustules were developed, and on the 12<sup>th</sup> the nose was covered with a scab, which fell in four weeks. I watched the child for several weeks and then sent him home. A year later, I saw him again, when

Angiomata  
Treatment

Balmano Squiris method

Sherivell's method

Compression

all that remained were several minute points of a red colour covered with scabrous.

Balmain's Squire recommends the following method. First, cause local anaesthesia by ether, then by means of a cataract needle, or better still, by a bunch of knives after the pattern of Squires, make incisions down to the normal tissue. The cuts should 1/10 inch apart. Cover the bleeding surface with blotting paper press a little and the haemorrhage stops.

Sherwell tattooed with a bundle of needles, and cauterised with 50% solution of carbolic acid, or 25-40% of chromic acid.

Compressing by sticking plaster is to be tried for Angiomata on

# Lymphangioma

Three forms

Simple

Cavernous

Cystic

Cavernous

the extremities. Capillary vessels may be removed by stripping them up and brushing with Lig. Ferri, and then with Colodion.

II Lymphangioma.

(Microscopic specimens No: XI-XIII)  
Lymphangiomata develop out of lymph vessels. They are divided into three forms.

1 Simple, composed of lymph spaces and lymph vessels, capillary and larger. They consist of an anastomosing network of vessels, with fluid contents of a transparent waxy character.

2 Cavernous. These have a bounding wall of connective tissue. The cavity contains a quantity of lymph. Besides this there is no-

Lymphangioma  
Cystic form

"Lymphangioma Tuberosum  
Multiplex"



thing peculiar about this form.  
 3 Cystid form. This is a convolution of cyst-like vessels, having no connection with the proper lymph vessels. The connection has through time been destroyed.

A rare form of Angioma is the "Lymphangioma Tuberosum Multiplex". It consists of numerous minute tumours, seated in the cutis. They are moderately hard and movable. Confusion with syphilis may arise but antisiphilitic remedies of course do not affect the tubercles of lymphangioma. Thus we can distinguish between them.

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### III Cellular Formations

Rhinocleroma

Definition

Course

III Cellular Formations.

1. Rhinoscleroma.

"Rhinoscleroma consists of a circumscribed irregularly shaped tubercular growth, of a flattened hard dense cellular new growth having its seat in or about the region of the nose."

This disease, somewhat rare in this district, but commoner in Austria, was first described by Hebra and Kaposi. As is implied by the name, it has its seat about the region of the nose.

It consists of tubercles, in the early stages, sparingly distributed and deeply set. But as the affection becomes more pronounced, becoming crowded together. In character they are

flat sharply defined and are painful on pressure. They are intimately united with the integuments lying over them, but are loosely attached to that immediately beneath. Thus they can be elevated from their seat, but cannot be separated from the skin covering them. In colour, each tubercle is dark brown, in some cases it is normal in colour, and is like a hypertrophied cicatrix. The outline of the newformation is sharp, and the sides abrupt. The skin around preserves the normal appearance.

The disease begins invariably on the nose, and in severe cases extends to the mouth and posterior

Rhinoscleroma

Character

Course

nares. The shape of the nose is greatly altered. It becomes thick, broad, and flat; the wings forming an angle much more obtuse than is normal.

On handling the parts, one feels a hard, incompressible, mass, seated at the root of the nose. It is not painful on pressure. Nasal respiration becomes much impeded or entirely suspended. Thus the sense of smell is lost. The voice acquires an unpleasant nasal twang.

Rhinocleroma is very chronic, and may continue unchanged for many months. On dividing it with the knife, it is surprising, says Kaposi, how easily the instrument makes its

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way through tissue that feels so hard. Operations of this kind are by no means satisfactory, secondary growths following immediately.

In more severe cases, the process extends to the alveolar arch, destroying the sockets of the teeth, and causing the latter to fall out. It may extend to the larynx, fixing the epiglottis, and constricting the trachea.

With the exception of cases like the last, Rhinoscleroma has no great effect on the general health. The body continues well nourished, and the appetite good. Though the patient becomes anaemic and depressed in spirits,

Rhinoscleroma

Diagnosis



most of the functions are discharged with regularity.

In regard to Diagnosis, Rhinoscleroma sometimes presents difficulty. It has been mistaken for syphilis. J. Rickeliez considered it to be due to inherited syphilis. In one case he saw osteitis of the clavicle, and perforation of the hard palate. The chronic course, absence of ulcerations, the peculiar localization, the hardness, and the absolute indifference to anti-syphilitic treatment, mark it as a disorder quite distinct from syphilis.

It has been confounded with Keloid. Time however suffices to distinguish between them.

Rhinocleroma

Anatomy

Geberis view

Kaposis "

Nickuligis "

37

Anatomy. (Microscopic Specimen No: ~~XIV~~) The histological changes show lengthening of the papillae and widening of the vessels. The connective tissue of the papillae as well as that of the stratum vasculare is of fine fibres, filled by thick cell infiltration. In the mucous and submucous tissue, there is infiltration, and connective tissue neoplasms forming alveoli. Even in cartilage, Kaposi found infiltration.

According to Geber, the disease consists of diffuse infiltration and proliferation of cells. Kaposi considers it allied to granulation sarcomata. Nickulicz describes it as chronic inflammation, with small celled infiltration forming spindle-

Rhinocleroma

Causation

cells and connective tissue. The process of infiltration proceeds from the deep, and ascends to the superficial, tissues. The sebaceous and sweat glands disappear. The epidermis shows process-like continuations, descending into the tissues. The cutis cells are pressed asunder by round cells. The nerves however are unchanged, but the smooth muscles are waxyly degenerated. The striped muscles show at first increase of muscle corpuscles, then lose their stripes and become homogeneous. Cartilage and bone are unchanged.

In regard to causation, nothing is known. It has been thought, but without sufficient grounds, to have some connection with syph-

Rhinocleroma

Prognosis

Treatment

Lupus Erythematosus

Definition

itis. A peculiar bacterium has been observed in all cases hitherto recorded, but its special significance is unknown.

Prognosis. From the foregoing description it will be seen that this is unfavourable.

In regard to treatment, all we can do is, by tents and bougies, to keep the air passages open.

Excision of masses of the growth may relieve temporarily, but has not in any case been found to cure.

## 2 Lupus Erythematosus.

"Lupus Erythematosus is a cellular newgrowth, characterised by one or more circumscribed, rounded, or irregularly shaped, reddish patches

# Lupus Erythematosus

## Various names

Seborrhoea Congestiva

Erythema Centrifuge

Lupus qui destruit in superficie

Lupus Superficialis

## Two forms

L. E. Discoides

" Disseminatus

L. E. Discoides



covered with greyish or yellowish adherent scales."

The name *Lupus Erythematosus* was bestowed by Cazenave. Hebra had described it before that as "*Seborrhoea Congestiva*". Pielt gave it the name "*Erythema Centrifuge*" or "*Lupus qui debuit en surface*", and Thompson Parks described it as "*Lupus Superficialis*".

It appears at first as minute spots, slightly raised above the surface, slightly glancing, or covered with fine desquamating scales.

It is divided into

- 1 L. E. Discoides. 2 L. E. Disseminatus.

1 *Lupus Erythematosus Discoides* is in its course most chronic.

L. Erythematosus

Course

Beginning as a minute spot, it requires years to develop to the size of a crown piece. While advancing peripherally, it becomes covered centrally with fine scales. The margins are slightly elevated, the centre depressed. In the course of years, it may become as large as the palm of the hand. It is always found in the region of the face, nose cheeks eyelids and scalp. It has very exceptionally been seen on the fingers and toes. A typical form is where it covers the nose and spreads on each side beneath the eyes and on the cheeks. It has an extreme resemblance in form to a butterfly, and may from this feature be at once recognised.

*L. erythematosa*

Hebra's case

In time, the deep reddish color made fade, but it will then be easily recognized by the fine scales. Occasionally adenitis, erysipelas, or parotid swelling, may arise. Hebra relates a case as follows. "The patient was a man aged 32. On admission he showed a red efflorescence. Two months later, the whole face was swollen and reddish, and covered with confluent and scattered scabs. On the forehead and cheeks, the limits were apparent by furrows. On the thorax there were diffuse vesicles, filled with blood and yellow fluid. On both upper and lower extremities similar efflorescences were seen. After 14 days the vesicles dried up to scales

*L. G. Disseminatus*

Description

which fell, and now only *Lepra erythematosus Discoides* was recognized. The patient died of pneumonia two and a half months from the onset of the case.

2 L. Erythematosus Disseminatus.

This form differs from the previous one, only in the greater number of areas from which it starts.

Many spots of efflorescence appear simultaneously and recede, followed quickly by others. It occurs usually on the face, also on the body and limbs. It is ushered in with fever and pains in the limbs. Occasionally erysipelas follows earning for it the name "Erysipelas Peristans Faciei."

It may terminate fatally in

L. E. Disseminatus

Anatomy



the most severe cases. Some-  
times it is attended with for-  
mation of vesicles and haemorr-  
hage, resembling Herpes Iris. These  
leave behind dry crusts. Occasion-  
ally the mucous membrane  
is similarly affected.

Anatomy. L. Erythematosis  
originates from the sweat glands  
and hair follicles, according to  
Kebra. In the early stages, the  
sebaceous glands, by heaping of  
cells in- and outside of the glands,  
are enlarged, and the walls  
thickened. The vessels of the con-  
nective tissue of the cutis are  
swollen and oedematous. In  
a case further advanced, the  
ducts of the glands become chok-  
ed with debris. The connective

tissue shrinks and becomes hyaline. Adipose and nervous tissue disappear. The hair falls. The papillae are much lengthened, and their vessels much infiltrated with cells compressing them, and interfering with the circulation. In some cases the new tissue extends deeply into the connective tissue forcing aside its fibres.

One case of *L. Erythematosa* on the head was observed to originate between the rete Malpighi and the cutis, as a layer of cells extending to the deep cutis layer, and accompanying the blood vessels.

The disease is very chronic, and may last for 10-20 years.

*L. Erythematosa*

*Prognosis*

In severe cases, the face appears as if ravaged by small pox. In milder cases, many vesicles disappear leaving not a trace behind.

Prognosis. The discoid form is the less serious, and is seldom or never fatal. h. Erythematous Disseminatus however, with acute attacks may very readily cause death. Of 53 cases reported 8 died (6 of pleuro-pneumonia) In one fatal case, Darwich found inflammation of the cerebrum and of the lateral anterior cornu, also in the anterior commissure of the cord.

The Disseminate variety is less amenable to treatment, owing to its widely spread area.

*L. Erythraeatus*

Diagnosis

The Diagnosis is usually easy. It occasionally resembles *Linca Torusurans*, or orbicular syphilis. Central shrinking and depression are however unknown in *T. Torusurans*. While the symptoms of acute inflammation, differ from both *T. Torusurans* and Orbicular syphilis.

The Disseminate form may resemble *Erythema Impetiginosum*, *herpes torusurans* or *herpes ovis*. Time distinguishes between them by the formation of the central depression. It is easily diagnosed from *L. Vulgaris*. In this are large spots, which after year long duration form tubercles and ulcers. In *L. Erythematosis* the cartilages are

# L. Erythematosis

Etiology

Treatment

never attacked, while in *h. Vulgaris* they are usually. *h. Vulgaris* appears usually in childhood, *h. Erythematosus* seldom before the 20<sup>th</sup> year. In *h. Vulgaris* there is great destruction. In *h. Erythematosus* slight. Even by the naked eye, it can be seen that *h. Erythematosus* begins in the sebaceous glands and follicles. And finally in the advancing area, there are, in *h. Vulgaris*, always minute brown spots, the newly formed tubercles.

The aetiology is quite unknown. Treatment. In treatment we must be prepared for great surprises, a very slight attack may prove most obstinate, resisting all attempts at treat-



ment, while a more severe one may heal very easily. Thus we should employ at first mildly working remedies. Washing with soap and water. Naphthol and sulphur soap, methodic painting with sulphur ointment.

Or Mercurii Precip alb	pt 5.00
Ung. Simp	5.00.
Pisumithi	5.00

Apply on leather.

Iodine, sulphur, carbolic acid, chromic acid, mercurial plaster, chrysarbin and pyrogallol ointment are all worth trying. In severe cases, arsenic ointment, scraping with sharp spoon are better suited. Iod-amylum, according to M. Ball Anderson, is valuable. Cod liver oil internally.

Lupus

Definition

Description

70  
3 Lupus Vulgaris Willan.

"Lupus Vulgaris Willan is a new growth of connective tissue, characterized by variously shaped, reddish or brownish patches, consisting of flat elevations, papules or tubercles, usually terminating in ulceration and scicatrization."

Lupus Vulgaris consists of tubercles of cellular tissue set deeply in the skin and mucous membrane, of a reddish or brownish colour. Owing to their situation, in the early stage, they are not perceptible to touch, but are covered by normal skin. Pressure by rendering the skin pale, throws the brown tubercles more into prominence.

Before the writings of Willan

Lupinus

Primary stage

L. exfoliatus

and Bateman Lupus Vulgaris was not understood, the name being loosely applied to ulcers of the lower limbs. These investigators have paved the way for more exact knowledge of the disease.

The primary stage, is the formation, deep in the corium, of minute tubercles. After remaining for some time unchanged, they undergo a form of retrograde metamorphosis. Their constituent cells separate, break down, and become absorbed, while the shrunken epidermis peels off. To this stage, the name of Lupus Vulgaris Exfoliatus is given. In other cases, the integument and the tubercles break down

Lupinus

L. Ulerianus

L. Serpiginosus

into pus and are discharged, producing the condition known as *L. Vulgaris Ulcerans*. Both processes may exist at the same time, the result being irregular shallow ulcers secreting pus. Again instead of breaking down, the tubercles may take on excessive growth, forming soft lengthened excrescences - *L. Vulgaris Papillaris*. A severe form exists in which new tubercles develop on the borders of the old broken down ones, extending widely in circles. There is thus a constant crop of new tubercles arising forming the variety - *L. Vulgaris Serpiginosus*.

Though generally confined to the superficial layers, lupus occasionally penetrates more deeply,

Lupinus

Locality



eating into cartilage peristernum  
 and bone. A peculiar combina-  
 tion occasionally seen, is, where  
 carcinoma develops on the top  
 of Lupus. Though often causing  
 difficulty in diagnosis, the two  
 affections exist quite distinct  
 from each other. One has only  
 to examine a newly affected  
 area, when the brown tubercles  
 of Lupus set the matter at rest.

Tubercles of Lupus are often  
 seen on the mucous membrane  
 of the hard palate, velum, and  
 larynx. Here, they are very small  
 showing occasionally shallow  
 ulcers, or large ulcerating surfaces  
 may occur, ending in irregular  
 cicatrices.

In regard to locality, the nose

and its surroundings, are by far, the most frequently affected. Commencing on the bridge, it extends to the wings and root, causing contraction, and great loss of tissue. Owing to great accumulation of crusts, it may appear increased in volume, but removal of these, permits the true state of matters to be seen. The process may extend to the nasal mucous membrane, destroying the septum, but has never been known to attack the bones of this region. The submaxillary glands are occasionally affected, whereby confusion with scurfula may arise. In time the process may attack the forehead and scalp. When it reaches the

Lupus

Severe case in

Kapra's wards

mucous membrane of the  
 mouth, bleeding of the alveoli  
 and falling out of the teeth may  
 occur. When on the larynx, it  
 causes hoarseness and loss of  
 voice, by attacking the vocal  
 cords, perichondritis and sten-  
 osis arise. It may attack any  
 part of the body and limbs, where  
 it seems to produce more destruc-  
 tion and to cause deeper ravages  
 than elsewhere. A case was  
seen by the writer in Kaposi's  
clinic, where the entire lower  
limb from the knee down-  
wards was a mass of deforma-  
ty and ulceration. The limb  
was much thickened and  
the skin entirely gone. Thus  
great resemblance to Malign-

Lupus

2<sup>nd</sup> - case

rant disease was produced. A notable feature was that pain was very slight, the patient walking into the room with but slight discomfort.

Another case in a child aged 4 had affected mainly the joints. Both legs were ankylosed having been flexed to the utmost. The patient was obliged to sit night and day, in tailor attitude, each foot reaching to the head of the opposite thigh bone, the sole being turned upwards.

The wrists, and several fingers, were movable to a slight extent, by which she was enabled to earn a livelihood by knitting.

By extending along the lymph glands, Lupus may destroy the

Lupus

Anatomy

phalanges of the fingers and toes. By ulceration and necrosis, the limbs may dwindle to mere shrunken stumps, or they may be much thickened.

As a rule the disease appears in early childhood, from the 3<sup>rd</sup> to the 6<sup>th</sup> year. In favourable cases it advances slowly, so that by the 12<sup>th</sup> year it affects a surface no larger than the palm of the hand. The most unfavourable cases are those, where it affects several situations at once, and advances rapidly.

Anatomy (Microscopic specimen No: XV) Lupus Vulgaris has been thought to arise simultaneously in the whole depth



Lupinus

Origin according to  
Veid

Pilbroth

Rindfleisch

True origin

of the cuts, or in the rete Malpighi, or to be partly an inflammation. Simeon and Rokitausky consider it to be a new formation of connective tissue, or that the stratum vasculare of the cuts is the original seat. According to Reid, it arises from the tissue lying between the hairs and sebaceous glands. Virchow asserts, that it consists of a tissue similar to that in a granulating wound. Billroth places it among the Granulation tumors. Rindfleisch describes it as "adenoma of the sweat glands."

It, however, is now quite certain that Lupus Vulgaris arises from the tissue around the

Lupus

Friedländer

sweat glands. Cell proliferation occurs also within the glands, filling them with debris and horny cells. Lupus is either diffuse or is circumscribed in extent. It spreads by the capillaries. The elastic fibres of the skin retain for long their normal structure. At a late stage, the rete Malpighi becomes degenerated, and disappears.

Friedländer says, that Lupus originates in the capillary lymph and blood vessels, forming a network which in time reaches the surface. As soon as giant cells appear, infiltration progresses rapidly in the rest of the cutis, and the contour of the Lupus area is lost. The subcutaneous

Lupus

Thomas's views

L. Vasculorum

tissue then becomes affected, and the normal tissue elements are pushed aside. Finally the epidermis disappears, and the lupus tissue lies exposed.

Thoma considers lupus to arise from connective tissue blood vessels. Abundant lymphoid elements form, which by increase in size form warty or knobby projections.

In Lupus Vasculosus there is accumulation of cells in a limited area in the upper layers of the cutis. Extension of this forms Lupus Tuberosus, the areas are much larger, and now form massive projections. In Lupus Exfoliatus, the epidermal cells are degenerated or separate. Pigment accumulates in the

Lupus

L. Hypertrophicus

L. of the conjunctiva

cuts, and the papillae are widely dilated with debris. In Lupus Hypertrophicus, the accumulation of cells has gone still further. Large masses of degenerated tissue lie on the surface. These quite alter the normal shape of the part. In all of these processes, the hair and hair follicles share in the general destruction.

In lupus of the conjunctiva, there is a small celled infiltration lodged in a thick reticulum. Blood vessels run through the tissue. From the tunica adventitia, hard bundles of connective tissue branch off. The epithelium extends beyond the normal depth, forming



Lupus

Coloniatis divisione

L. Varius

Pseudopum Lupus

Diagnosis per

L. Erythematosus

Syphilis

Epithelioma

Exema

Psoriasis

Lepros

long processes. In the deep layers of the conjunctiva giant cells are seen containing fine granules.

V. F. Coloniath distinguishes Lupus Varius and L. Pseudopum.

Pseudolupus consists of a reticulum, penetrated by vessels containing numerous colourless blood corpuscles.

Diagnosis. L. Vulgaris may be confused with, 1 L. Erythematosis. 2 Syphilis, 3 Epithelioma, 4 Eczema, 5 Psoriasis, 6 Lepra.

The papule of serpiginous syphilis is like that of Lupus, but the efflorescence of syphilis is harder, develops more quickly, and is often combined with other manifestations of the disease. The lu-

Lupinus

Opethelionia

Gezema

10  
pous efflorescences are softer,  
develop more slowly, and are  
as a rule on smaller areas  
than syphilis. They occur most  
frequently on the nose, cheeks,  
eyes &c. Lupus heals with a  
white scab, syphilis with a  
dark one. The syphilitic papules  
are on the flexor surfaces, and  
syphilis runs a quicker course  
than Lupus.

Epithelioma. Confusion is only  
possible, when Lupus is con-  
fined to the usual seats of epi-  
thelioma. Time by making  
the former spread, will make  
its features more apparent.

Eczema runs a quicker  
course than Lupus. The infil-  
trations of the latter are always

Lupus

Psoriasis

Lepra

Prognosis

deeper. Eczema has never the same kind of scabiness as Lupus viz. soft. The reddish spots will distinguish Lupus.

Psoriasis h. Exfoliatus may at times resemble psoriasis. But Lupus has fewer scales. Psoriasis affects chiefly the external surfaces. Lupus is not so limited.

As to Leprosy, it is a much more severe disease than Lupus. Only in the first stage is confusion possible.

Prognosis must be said to be unfavourable. Owing to the slow course and uncertain termination, we must speak guardedly. It does not for a considerable time affect the general health. Neurostria-

Lupus

Aetiology

According to Billroth, has  
no connection with peripneumonia

85  
time and conception go on, and women bring healthy children into the world.

Aetiology. Lupus has been thought to be in some way connected with scrofula. But if, as Billroth says "by a scrofulous diathesis, we indicate a condition in which on the least injury, long continued inflammation arises, frequently ending in suppuration and caseation, and seldom assuming the form of hypertrophic processes; in which internally are present amyloid degeneration of the liver, spleen, and kidneys, and disease of the eye as Keratitis, we have no ground for deriving lupus from that condition."



Lupus has been connected by some writers with syphilis. Lupus however is not as a rule hereditary, and is not found in many members of one family. In these features it is unlike syphilis. Further, lupus and syphilis have been seen simultaneously in the same individual. A man suffering from Lupus has been known to acquire a hard chancre followed by its usual sequelae, a further proof that the two diseases have not the same cause. Therefore such a name as "Lupus-syphiliticus" is meaningless, and could only arise through ignorance of the peculiar

Lupus  
Treatment

Dr Kapsis hands

87  
features of the two diseases.

Treatment. Internally Arsenic, Zittmann's decoction, cod liver oil, iron, nourishing food, have all been found useless. Nothing succeeds but local measures of which Volkman's sharp spoon is the best. In Kaposi's hands this means is much used. He energetically scratches away the diseased tissue, the sound parts having vitality enough to resist his manipulations. Every patient is treated without chloroform, and although great pain is caused, judging by the gestures of the one operated upon, each takes his turn with military submission.

Lupus  
Treatment  
Veiel's method

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Stabbing with lancets or with Veiel's instrument is also employed. It is more effectual if the lancet be first dipped in fuming nitric acid. Thus the depths of the growth are destroyed.

Cauterisation by silver in stick form is thus performed. Small pieces of the stick are pushed into the margin of the growth forming a circle. The tissue being everywhere attacked shrivels up and falls away.

Chloride of zinc. Conquius paste (= Chlor of Zn 1. Starch 3) spread on linen should be applied only to the body and limbs. Modified Landolf's

*Scorfuloderma*

*Definition*

*Description*

paste (chlor of zn 3. Bromine 5. chlor of Antimony 1) is not agreeable to work with, owing to the strong Bromine fumes.

The Galvano-cantery is also useful. Plastic operations usually fail, owing to the unhealthy state of the tissues on which the grafts are placed.

Scrofuloderma.

Under this head are placed all those diseases of the skin, which arise owing to the peculiar condition of the system, called the "scrofulous".

One of the structures most frequently affected by this disease is the lymphatic glands. Without appreciable cause these be-

gin to swell painlessly and slowly. After some time, those beneath the angle of the jaw e.g., reach the size of a small egg. Degeneration may now set in, or they may remain unchanged for many months. When at last they do retrograde, the tumours become soft owing to the presence of fluid. At length this reaches the surface and breaks through. A thin ichorous discharge sets in, which may last for many months, accompanied by unhealthy cheesy material. Thus the skin may become deeply undermined, the glands destroyed, and pained cicatrices mark the scene



*Scripulederma*

Rare form

of former ravages.

Occasionally, ulcers remain long open, showing no tendency to heal. A thin fluid containing few cells comes from them, and they may bleed on slight injuries. The disease may extend to the eyes, nose, and other organs. Slight injuries cause painless swellings on the joints. At other times numerous pustules are seen not unlike those of syphilis.

A rare form of serpiginous disease, is the presence of small fungoid growths. They are excoriated and yellow, the discharge dries into yellow scabs. Their course is chronic. In appearance, they are not unlike

*Sarcinoderma*  
Aetiology

42  
L. Vulgaris.

In regard to Aetiology, most writers consider Scrofula to be due to the marriage of near relations. There can be no doubt, that insufficient food and unhygienic surroundings, favour its development. Kaposi and Auspitz have gone fully into the comparison of Lupus and Scrofula. The former declares them to be totally distinct. But Auspitz, by giving to Lupus a broader basis, considers it, as Virchow says, somewhat like a Granuloma. In this way he says, it consists of chronic eruptions of nodular flattened tumours. Under this heading Auspitz places certain forms of Syphilis, which may

*Serpiloderma*

. Treatment

be described as Syphilitic Lupus. By analogy he applies the same reasoning to Scrofula.

The general appearance of the patient, and the glandular swellings and scabs, will generally prevent error in diagnosis.

In regard to Treatment, we must rely mainly on internal remedies. Of these Cod liver oil stands first. Iodine is also a most valuable auxiliary. Iron, arsenic, nourishing food, and healthy surroundings, will greatly benefit the sufferer. Sea bathing and sea air are also beneficial.

# Tuberculosis

## Description

# Tuberculosis of the Skin.

For many years the existence of this disease was considered doubtful. But of late, several cases have been seen in Vienna and elsewhere, placing its existence beyond question. It is seen usually about the mouth and lips, in one case on the anus. As usually seen it has the form of a broad shallow ulcer. The floor is even and clean. There is moderate discharge. The edges are not raised, but are flat soft and level. It looks as if a piece of mucous membrane had been dissected off a healthy lip. In the neighbourhood, small papules may be seen, the true tubercular growths.



Tuberculosis

Anatomy

Podocoma

The disease has a rapid course and in time, tubercular lesions show themselves in other parts of the body. Of these, the lungs are the commonest. The affection is somewhat rare, Chiari having discovered it in 5 bodies of 6000 which had died of tuberculosis.

### Microscopic examination

(Specimen No: XV) shows the nodular tubercle set in the skin. In the centre are seen the giant cells containing many nuclei. In some parts they are seen undergoing retrograde metamorphosis.

The disease called Pododermia, Fungus foot of India, Madura

Podocarpus

Description

foot, and Mycetozoa, may be here referred to.

The affected region, foot or hand, according to Dubwing, swells, and may be beset with numerous peasized tubercular lesions, studded with numerous black dots resembling fish roe, which ooze from deep sinuses. It is seen chiefly in India, and has been described by Vandylke Carter as Mycetozoa, and also by Lewis and Cunningham. A case is described by Kemper of America, of a young man whose foot six months previously became red and swollen. Following this, were extreme tenderness and blebs, from which came fluid like white of egg.

Airburn  
Description

Ulcers formed, on the ground of which appeared fluffy stuff like mould, coming from deep sinuses. Amputation was ultimately performed, when the muscles were found to be disintegrated by minute granules, which Dr Kemper regarded as vegetable spores.

The Aetiology of this disease is unknown.

The disease called Ainhum may be mentioned. It is peculiar to the African races, and has been described by Silva Lima of Bahia. It consists of slow fatty degeneration of the toes especially of the smallest, involving all their anatomical

Perforating Ulcer  
Description

Treatment

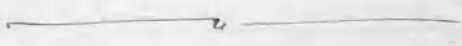
elements. In time the toes drop off.

Finally the Perforating Ulcer consists of a deep sinus, opening on the summit of a large cone, leading down to diseased bone.

There is no pain or discharge.

The disease is indolent. There is usually anaesthesia, and the temperature is reduced. The disease affects usually the proximal end of the first or last toe. According to Savoy and Butlin, it is due to injury to parts whose nutrition is already weakened.

Treatment is usually unsatisfactory, often leading to amputation.





Malignant Formations  
Lepra

Definition

Description

# B Malignant Formations

## I Leprosy.

Also named Lepros Arabum, Elephantiasis, Leprosy, Spedalskethed (Norwegian) Aussatz (German).

"Lepros is an endemic, chronic, malignant constitutional disease, characterized by alteration of the cutaneous, nerve, and bone structure, resulting in anaesthesia, ulceration, necrosis, general atrophy and deformity."

Lepros, as the definition states, is a severe constitutional disease, now only known in some localities. It was not always thus limited. From the 5<sup>th</sup> to the 14<sup>th</sup> century, it was one of the severest scourges of mankind.

Lepra

Description

Over the whole of middle Europe and coasts of the Mediterranean, thousands of men and women were annually annihilated by its visitations. In our own country and in France, at that time, innumerable hospitals were built for the reception of sufferers. Strict laws were enacted to prevent all affected with the disease, from associating with their fellows and especially from marrying. Towards the end of the 15<sup>th</sup> century it appears in great measure to have died out, and except in certain localities, is now almost unknown.

In early times much confusion existed as to the course

Lepra

Principal Investigators  
Bock of Scandinavia  
Danielsen of Stockholm

Course

and symptoms of the disease.

This was not diminished by the varied nomenclature of different countries. The investigations of Boeck of Scandinavia and Danielssen of Stockholm have rescued it from confusion. Our present knowledge is the result of their labours.

In our day Lepra is found along the coast of the Black Sea, the Mediterranean, and Caspian, in Norway, the coast of Africa, the Sandwich islands, Syria, and Palestine. Also in the Indian and China seas. In the Australian archipelago, in parts of North America, and in Iceland.

In its course Lepra is very

chronic. It begins as reddish or brown spots, in parts scaling, or as large tubercles and knotty processes. At first these cause great hyperaemia, at a later time, anaesthesia and deformity. In some cases these symptoms are successive, or are not seen in one individual. In other cases, they are all present at once. We may thus see before us the course of the disease in one individual. By observing a fresh papule, we may see it assuming its later form, and we can study its further developments in other parts of the body.

In every case there is a regularity of the symptoms, which

# Lepros

Roche & Danielsson

Two forms

L. Tubercula

L. Anaesthetica

Kapisi's three forms

1. Knotty or Tuberculous

2. Spotted or Macular

3. Anaesthetic form

Prodromal symptoms



never occur out of that order.

Best writers among whom are Boeck and Danneberg distinguish two forms of Leprosis -

- 1 L. Tuberosa.
- 2 L. Anæsthetica.

Kaposi however describes three types.

- 1 The Knotty or Tuberculous.
- 2 The Spotted or Maculous.
- 3 The Anæsthetic form.

Before the appearance of the eruption, Leprosis is usually preceded by prodromal symptoms.

Among these, are loss of appetite sleeplessness, depression of spirits diarrhoea, and occasionally pemphigus. These however may be altogether absent, and do not in any case indicate the type of the disease.

Lepra

Rustly form

In the following pages we will describe the disease under Kaposi's three forms.

1. The Kustly form begins as minute spots on the skin and mucous membranes. These increase in size and number, till the skin is beset with innumerable bronze-looking spots, having an oily look. At a late period, the skin is thickened, owing to infiltrations and is painful on pressure.

After maintaining this form for months, small tubercles make their appearance. They are circular, glaucous, slightly raised and exfoliating. At a later stage they are thickly set and have the appearance of ir-

Lepira

Naval post

regular plaques of a circular form.

The usual seat of the tubercles is the face. Here they thicken the eyelids and eyebrows, causing them to project and hang downwards. On the lips, they alter the natural outline, causing them to hang down, producing a frowning expression.

Although the tubercles develop with rapidity, the course of each is slow in the extreme. They may remain unchanged for months, except that they grow larger. When at length they fall, a foul bleeding surface is left secreting pus. In time this dries to crusts. In some cases it may become covered with epidermis appearing as if healing. This

however is but temporary, they soon open and become larger. When the process extends, it affects muscles, tendons and bones.

These necrose and separate, leading to Lepros Deformans.

The mucous membranes do not long remain unaffected.

The mouth, nose, larynx and pharynx show the small tubercles and ulcers. Necrosis of the cartilages, causes loss of voice, and stenosis of the trachea.

Meantime the general health remains good. Appetite is fair, sleep may continue in normal condition, and the other functions are carried on as usual. When the disease has lasted for a few years, this is not so. Internal

Lepia

Spotted form  
Features

Gr: Wilson's distinction

Morphology

red, white, lardaceous

atrophic, black,

disease, e.g. of the liver spleen and bones, arsis, while the Lepra passes on to the anaesthetic form.

2 Spotted Lepra. The characteristic feature of this form is numerous spots of a brown colour. On the surface they show a glancing epidermis, and have at first no infiltration. Later they are much infiltrated. In form, the spots show great variety, sometimes looking like elongated bands or stripes. Dr. Wilson distinguishes one form of Spotted Lepra as Morphoea with its varieties (a) red (b) white (c) lardaceous (d) atrophic (e) black. The special feature of this form is its lard-like surface. It may increase to any



Lepra

Anaesthetic form

size. The Spotted Leprosy is a transition form from the Kustly to the anaesthetic.

3 Leprosy Anaesthetica is a late development of the disease. In it various anaesthetic areas make their appearance, and may assume large dimensions.

The anaesthesia spreads gradually from the point of origin, and is very marked. There is absolutely no pain in the parts. They may be cut or burned, without their possessors being aware.

The anaesthetic areas correspond in no way with the nerve distribution of the part.

The greatest irregularity is seen in this respect. Large areas

Leprosy

General health

Progress

may preserve sensibility, and are, at one time anaesthetic, and, at another, sensitive. Although the skin is quite devoid of feeling, the subjacent parts may be acutely sensitive. Indeed they seem in some instances to be hyperaesthetic.

The general health may remain good. Intense pain in the limbs may arise, or great thirst and dryness of the mouth. On the integuments, there may be feelings of formication, disturbing rest and sleep, or there may simply be an intolerable feeling of restlessness.

After remaining for a varying time, these symptoms grad-

ually disappear. This is not in any way to be looked on as an improvement, but the reverse. It shows that the disease is advancing to the late Anæsthetic form. Irregularly distributed areas of atrophic skin appear; in some places this may reparate. In some cases the muscles share the same fate, leaving tendons and bones exposed. These may next be attacked causing separation of fingers and toes, hands & feet.

In other cases, the process stops short of deformity, and instead, there is paralysis of certain sets of muscles. Thus on the face the expression is lost. The arms are flexed, the hands

Lepra

Generative power

D<sup>r</sup> Macpherson Lawrie's account

drawn in on the palms. Or the wrist is extended, and the hand assumes a claw form. To this variety, the name "Lepra Deformans" is given.

Generative power is not lost, even although the skin of the penis is anaesthetic.

The mental condition is much altered under this destroying disease. The mind becomes lethargic, the patient sits or lies motionless for hours. Disease of internal organs arises, and the patient dies of pleuro-pneumonia, Bright's disease or of Pyaemia.

The following account of a visit to the Leprosy hospital in Honolulu was supplied by

Lepra

J. Lawrie's account (Cont<sup>d</sup>)

The Tubercular form

The Anæsthetic form



D<sup>r</sup> Macpherson Laurie of Weymouth  
 "I met D<sup>r</sup> Fitch of Honolulu  
 on board the "City of New York"  
 who offered to show me over the  
 Leprosy hospital.

The hospital consists of a num-  
 ber of wooden buildings with a  
 stockade surrounding them.  
 There are about 200 inmates of  
 all ages, and presenting the  
 three varieties of the disease—  
 Tubercular, Anaesthetic, and  
 Atrophic.

The Tubercular are covered  
 with large rounded tumours,  
 very much resembling the  
 pictures one sees of the disease.

The Anaesthetic show dis-  
 colored white patches, splint-  
 ered nails, and wasted limbs.

D<sup>r</sup> Lawrie's description  
(cont<sup>d</sup>)

The atrophic form

D<sup>r</sup> Fitch's opinion of  
aetiology of Leprosy

The Atrophic have knobs and rounded ends to their fingers. The fingers and toes are much shortened or are absent.

Lepra attacks individuals as early as 4 years of age. When a diagnosis is made, the sufferer is dead to the world as far as civil rights are concerned.

Dr. Fitch has treated 10,000 cases, and is intensely interested in the disease. He is firmly of opinion that it is a syphilitic disease. He showed numbers of children with undoubted characters of hereditary syphilis, born of leprous parents, and leprous children born of syphilitic parents.

The common history of a Leprous

## History of a Leprous marriage

## Treatment

## Treatment of severe forms

marriage is, miscarriages, then one or two syphilitic children, who in many cases die, others live and pass through the stages of hereditary syphilis, and one or two, who, when 7 years of age or more become conformed lepers.

The Treatment is mercury, iodide of potash, and salicylate of ammonium. Dr Fitch says cure is not to be looked for, but just as in syphilis, the disease if not too far advanced may be checked but breaks out again. It seems to be more liable to break out than syphilis.

When a case is beyond hope, it is sent off to an inland hospital where there is a settlement. I saw numbers of lepers

Lepra

Condition in the  
anaesthetic form

who had all the appearance of syphilis, no rashes, fissures, splint-ered nails, mucous patches, deep cicular ulcers, coppery stains, sunken noses, scaly feet.

In the Anaesthetic form, the affected parts lose sensation, and sufferers are in the habit of cutting away the anaesthetic parts, to see how the disease is progressing. I saw a portion of ulnar nerve swollen as thick as my little finger, and numerous specimens of decayed bone.

The hospital is not open to the public, but a Government pass can be obtained.

Dr Fitch has innumerable photographs and notes and is contemplating writing a book on the

Lepra

Diagnosis

May be confounded with

Syphilis

Vitiligoidea



subject. He remarked that about 95% of the native population is syphilitic."

From the foregoing description it will be understood, that the Prognosis is very unfavourable. In pronounced cases, cure is impossible.

Diagnosis. Confusion may arise in early stages with syphilis, more especially if a tubercle happen to be seated on the glans, leading to suspicion of chancre. When the large brown spots appear, all doubt will be removed. Anti-syphilitic remedies do not affect lepra, as they do cases of uncomplicated syphilis.

The Macular form may be mistaken for Vitiligoidea.

Lepros

Anatomy  
Description

Much importance from a diagnostic point of view, will be placed on the country from which the sufferer comes. If from a leprosy district, the disease will probably be Leprosy, while if he have never visited such a place, the probabilities are against that view.

Anatomy (Microscopic specimen No. XVII) Examination of Leprosy tubercles on the forehead, shewed the following changes. The papillae are considerably arched and the skin appears thickened. The normal tissue is pushed aside by exuberance of cells, so that only in parts, fibillar connective tissue is seen. The adipose tissue is likewise destroyed. In the corium lie scattered cells

*Lepra Nervorum*

white colloid degeneration is advancing around them. In the upper part of the corium, one sees aggregated balls of colloid tissue. The muscular fibres are hypertrophied. The sebaceous glands are occasionally lost, partly represented by wide cavities filled with horny epidermis, and a quantity of dried grease. Atrophy of the taste bodies has been found.

In Leprosorum, we see spindle-like flat thickenings principally on the ulnar nerve. The spinal marrow and the meninges are also inflamed. In these parts tubercles are found. The white colour of the nerves, passes into grey degeneration but the

Leprosy

Stender's Observations

Aetiology

connective tissue is not changed. The neurolemma is converted into a hard callous mass. Around the axis cylinder is seen a mass of Lepros cells.

F. Steudener found considerable thickening of the vessels of the spinal marrow, in consequence of colloid material. The vessels were thus narrowed in lumen. The grey spinal substance was changed into colloid matter.

Aetiology. Lepros being an endemic disease, it seemed probable that the locality, and the climatic and physical conditions of the ground, must produce some malarial influence that might be the exciting cause. But if we look at the Geographic-

# Lepra

## Geographical Distribution

Egypt, Cape Town,

Norway, Iceland,

Tropics Lebanon

Sandwich Islands

Brinnea

Regarding injection



cal distribution, we cannot consider this possible. Thus it is met with in islands and mountains, in Egypt, and Cape Town, in Norway with its long nights, in the intense cold of Iceland, and the scorching heat of the Tropics, in the heights of Lebanon, and in the marshes of the Guinea.

Neither can diet be considered to be the producing cause, as it is found in large towns as Rio de Janeiro, affecting individuals in the best circumstances and surrounded by every comfort.

In regard to infection, numerous investigations were made to isolate a bacterium pathogenic to the disease. Frisch has discovered in microscopic sections,

Lepra

J. Fox case

Hilltop case

small slender rods, in rows  
 bundles or heaps. What these  
 have to do with causation of  
 the disease is not known. It  
 has however been proved that they  
 cannot produce the disease when  
 inoculated. J. Fox describes a case,  
 where a child became leprosy,  
 apparently from drinking the  
 milk of a leprosy nurse. Mill-  
 roy relates the case of a boy, who  
 became leprosy, through prick-  
 ing his finger with a pin with  
 which a leprosy boy had previ-  
 ously pricked his finger. On the  
 other hand cases are known  
 where men have remained  
 healthy, though marrying suc-  
 cessive leprosy wives, and have  
 brought up healthy children.

Lepra

Treatment

Treatment by

Cochineal oil

Further, the disease or its tendency seems capable of eradication. Thus a family of whom several members had died of Leprosy, settled in Paris, and saw no further traces of the disease.

Treatment. Carbolic acid, and Glacial Phosphoric acid, Cassia nut oil, are much praised. The latter is thus prepared. It is collected from the nuts of the Anacardium Occidentale, in the West Indies. It contains a peculiar crystalline fatty acid, called Anacard acid, and an oily substance called Cardol. It is abstracted from the pericarp by aether. After being reduced, the oil remains behind.

after application in 12-24 hours

Lepra

Treatment by  
Guajun oil

vesicles appear, the contents drying to a thick crust. In 10-12 days the crusts fall, and the previously leprous spot appears normal. If the sensibility of the spot be not quite lost, it returns after the first rubbing. In one case where anaesthesia had existed for a year, four rubbings sufficed to restore it.

According to Danielssen, on the other hand, this oil works as a powerful irritant to the skin, and produces redness, swelling, and vesicles. These extend gradually from the place of application, and instead of eradicating, may increase the disease.

Guizun oil was tried by Dougall. It is obtained from *Dipterocarpus*

*Turbinatus*. It is taken inwardly and applied outwardly, mixed with equal parts of lime water.

The patient rubs his body previously with fine earth, takes ʒiʒ of the emulsion inwardly, and brushes the skin for several hours. By these means the tubercles drop

¶

Steam, brine, sea baths, oils, arsenic, iron, tartar emetic, veratrum, cardamoms may all be tried.

Change of residence is a most important accessory.

A method of demonstrating the *Lepros bacillus* is given on page 170.



Carcinoma

Definition

Description

## II Carcinoma.

"Carcinoma is a disease producing tumours composed of cells of an epithelial type, arranged in spaces, in a stroma, consisting of more or less perfectly developed fibrous tissue."

At one time it was doubtful how this disease should be designated. It was first described as a swelling consisting of hard tubercles. At a later stage, these assumed fungous growth, and finally came to ulceration. Marasmus next set in, and was followed by death. On examining the intimate structure under microscopical enlargement, observers believed that they had found a peculiar cell growth.

Carcinoma

Urbach's view

Therisch's view

At a later time, more attention was paid to the clinical features of the disease, and it was named according to the appearance of the tumour, and the history of the malady.

Again Virchow, referring to the anatomical basis, removed from Carcinoma, many growths now known as Sarcoma, and limited the former to tissue showing an alveolar basis, containing epithelial cells. Hirsch considered carcinoma as arising from preexisting epithelium. In this he included several benign formations, among which were adenoma. Thus he did not limit the name to tumours showing a purely malignant history.

Carcinoma

Kaposi's view

Epithelial carcinoma

Three forms

Flat

Deep reaching

Capillomatous

Flat

According to Kaposi, carcinoma may be defined as - "A new formation showing malignant characters, and consisting of a framework of alveolar tissue, situated in inflammatorily infiltrated connective tissue. In the interstices are lodged proliferating epithelial masses of cells."

Epithelial carcinoma, to which our description more particularly alludes, arises in the cutis and mucous membranes. It is divided into -

- 1 Flat
- 2 Deep reaching
- 3 Papillomatous

1 Flat carcinoma arises in previously normal tissue as minute pinhead in size hard

whitish glaucous tubercles. Some-  
 times they occur diffused, and  
 sometimes closely set. They occas-  
 ion intense feelings of itching,  
 owing to which they may be  
 scratched off, and the excoriation  
 become covered with a greyish scab  
 containing blood and pus. They  
 may remain for years in this  
 condition without further change.  
 In time they grow larger, and  
 rise higher above the surface.  
 In this state they can be remov-  
 ed from their seat. Crushed be-  
 tween the fingers they are soft  
 waxy pellets easily splitting.  
 When divided, they show an ar-  
 rangement of concentric layers,  
 the "laminated capsules" or  
 "pearl balls".

In time, the tubercles extend in depth, and widen in area. When they are removed or fall, a somewhat deep ulcer is left secreting pus. The floor of the ulcer is dirty, uneven, here and there, and cracked. The pus fills the cavity, and coagulates into scabs. After remaining for a time, these fall, and the underlying tissue tends to heal, or commences to break down again.

Epithelial Carcinoma in its early stages does not greatly affect the general health, nor are the lymphatic glands greatly swollen.

The tubercles when full sized, are as large as peas; are very numerous, and extend quite



Carcinoma

Locality 8

Epithelial Carcinoma

through the cutis. Their upper surface is glaucous and waxy, and penetrated by blood vessels. In consequence of shrinking, they draw the surrounding tissues together. When ulceration arises, crater-like cavities form with hard, elevated, everted, edges. On pressure, caseous plugs come out and viscid fluid. When the process has existed for some time, cachexia arises, and fatal ending. The most rapidly advancing form is Papillary Carcinoma.

In regard to locality, the face, especially the eyelids, nose lips forehead and cheeks, is the commonest seat. Here, it may remain for years with no change beyond slight aggravation. Or

*Carcinoma*

"Chimney Sweeps"  
*Carcinoma*"

It may extend to the conjunctiva of the lids and spread to the depths of the socket, without interfering with the eyeball. The bones and cartilages of the nose become gradually eaten away. On the lip, it forms hard masses. From the cheek it may extend to the antrum of Hyemore, laying it open, or it may attack the skull, and expose the brain.

The genitals are sometimes the seat of the first attack. Here it is called "Chimney sweep's cancer". This form is becoming rare, owing to the diminution of "climbing boys", a strong argument in favour of the local nature of the disease. It may attack the glans penis, and urethra,

*Carcinoma*

*Origin*

*Three views*

*Thiersch's & Waldeyer's*

*view*

and extend to the lymphatic glands and corpus cavernosum, ending fatally, in two to three years. In the female the musc veneris and labia are frequently attacked.

The disease may appear primarily on the mucous membranes of the mouth, nose, vagina, rectum, or may extend to these parts, secondarily. On the tongue, it forms flat painful tumours as large as a bean. Later these form ulcers, affecting the lymphatic glands, and terminating life in 1-3 years.

Origin. There are three views as to the origin of carcinoma.

1. Thierisch and Waldeyer assert, that carcinoma arises in all cases

*Carcinoma*

*Koster's view*

*Classen's view*

primarily from pre-existing epithelium; and that carcinoma cells are only altered epithelial cells. Thus it can never arise primarily in bone cartilage. The carcinoma cells force their way into lymphatic spaces. Waldeyer says he has demonstrated a layer of endothelium lying on the epithelial cells of the carcinoma. This view explains how readily carcinoma affects the system through the lymphatic vessels.

2 Röster believes that carcinoma arises by proliferation of the endothelial cells of the lymphatics.

3 Glassem says that carcinoma cells are altered white blood corpuscles, which have migrated from the vessels. This view is



*Carcinoma*

*Kaposi's division*

similar to that of Virchow, except that Clossen substitutes white blood corpuscles for connective tissue corpuscles.

Kapoi accepts the view of Thier-  
sch as to the flat form of car-  
cinoma. Microscopic examin-  
ation, shows elongation of the  
rete processes in the cuts, and  
lateral offshoots from the pearl  
balls within them. Around is  
an inflammatory area. In  
time by advance in the process  
of growth, we can determine  
that it is epithelial carcinoma.  
In the process, the elements of  
the vessel walls, muscle cells,  
and lymph cells, attain to pro-  
liferation. The appearance of  
pus and the formation of ulcers

Carcinoma

Secondary changes

To Lymphatics

Cellular tissue

Liver & lungs

are evidence of retrograde metamorphosis, and show the low vitality of the tissue.

Carcinoma undergoes numerous secondary changes. Among the most important of these are development-

- 1 In the Lymphatics, due to absorption of carcinomatous juices.
- 2 In the neighbouring cellular tissue. Due to the want of an investing capsule.
- 3 In the liver and lungs.

In regard to recurrence after operation, carcinoma may arise in the cicatrix. This is owing, probably, to incomplete removal of the original tumour. It may also recur by neighbouring (not local) reproduction.

Carcinoma

Prognosis

Description

Thus after removal from the lip, it occurs in the mouth. Or it may arise by distant recurrence, but this is not common.

Progress. Epithelioma is common after middle life. It is frequently caused by long continued irritation; the fragment of a broken tooth, the end of a rough pipe, or the juices of a very acid tobacco.

The disease appears first as a wart or intractable crack. It spreads at first slowly, latterly quickly, then suppurates and in many cases kills by exhaustion. It may arise on any part of the body, covered by epithelium. Consequently the bladder, uterus, intestine, and larynx are occasionally attacked. Arising in one of these sit-

Carinoma

Anatomy

nations, it may after a time spread to others as from the eyelid to eyeball, from penis to testis, from skin to adjacent bone.

Anatomy (Microscopic specimens Nos: XVIII - XXII) An epithelial growth consists of cells, somewhat resembling those of epithelium. They lie crowded between the fibres, and we can clearly make out the limit between cells and fibres. So loosely indeed do the cells lie, that gentle shaking is sufficient to displace them, shewing the alveolar basis of the growth. At a later period, degeneration arises in the mass, resulting in discharge of a thin fluid and cells. The cells are in no way characteristic of the growth



their varying form being due to pressure. In size they measure  $\frac{1}{2500}$  -  $\frac{1}{500}$  of inch. Each cell contains one or many nuclei, highly refracting light. They are very subject to colloid degeneration, when excessive it gives rise to "Colloid Carcinoma".

The stroma of carcinoma is fibrous, the fibers being composed of variously shaped cells, in many cases spindle-shaped, giving it a resemblance to sarcoma. The stroma is an integral part of the disease as much as the cells are. The carcinomatous elements are closely connected with the lymphatics. It has indeed been thought that they lie in the lymphatic spaces. The exact

Carcinoma

etiology

constitutional

Local

Heredity

Age

mode of connection is however not clear.

Aetiology. This may be either

- 1 Constitutional
- 2 Local.

1 Heredity is undoubted. It has been considered to be so in one-third of all recorded cases. Paget says it is hereditary in 1 in 6 of all his Hospital cases, and 1 in 3 in his better known private patients. Carcinoma therefore is in no way an exception to tumours in general.

2 Age. It is rare in early life, but may appear at any age up to 80 or 90. In the young, malignant tumour of the eye and bones is the commonest form, and of the tests in young adults.

Carcinoma

Aetiology (cont<sup>d</sup>)

Mental depression

Sex

Exciting causes

Blows

In the female, the uterus and breast are by far the commonest seats.

3 Mental emotion of a depressing character. Carcinoma often arises after a long continued period of mental depression. This however cannot be proved to be the exciting cause. We know that mental conditions profoundly affect the health of other organs, as that of the stomach. It may perhaps also induce the formation of tumours.

4 Sex. Carcinoma is commonest in women in the uterus and breast.

Exciting Causes.

1 Blows on the breast and eye (Paget) frequently give rise to one or other form of carcinoma. We cannot absolutely say that there is in these cases no predisposing element. But

Carcinoma

Geographical Distribution

India

America, China,

South America

Africa

England

it is well ascertained that many women in perfect health receiving a blow on the breast, shortly afterwards show signs of carcinoma. It is well known that women dread such forms of injury, as being causes of the disease.

Geographical Distribution. Carcinoma is unknown in countries inhabited by savages, while it is correspondingly common among civilized communities. It is said to be unknown in the frigid zone. It is rare in the tropics; in much populated parts of India however it is common. In America and China it is frequent. In South America and in Africa it has been reported to be unknown. Haviland finds that in England

Carcinoma

Local or Constitutional?

Three theories -

Blood disease,

Local "

Local with hereditary  
taint.



it is common in Wales and in the West and Northwest of England. It is not so common in elevated well drained places. The great piles in England, are the tertiary formations and the alluvial districts. It is common in lowlying districts which are liable to be flooded. These are also the densely populated parts. Thus high civilisation appears to draw Carcinoma in its train.

Is Carcinoma local or constitutional?

There are three theories—

- 1 That it is a blood disease
- 2 That it is a local disease
- 3 That if local, it can develop only in a constitution fitted for it.

According to the first view, the blood is said to be charged with

Caricatures

Griekser's views

the poison, always seeking to find an exit. There is however no proof that such a condition exists. Minute examinations of the blood reveal nothing of this description.

There can however be no doubt that there exists in the tissues, some peculiar tendency to the development of carcinoma, although this does not exist in the blood.

2 Local. (1) "Carcinoma", Eriksen remarks, "arises in individuals apparently in the best of health. (2) The tumours arise only one at a time. Others may follow rapidly, but at first only one appears. This tends to show that it is a local disease, as, if it were constitutional it would appear (like other diseases) in several places at once. (3) The

seats of carcinoma are often the seat of some local irritation or wound.

(4) The primary tumour attacks organs, such as the testis or mamma, which are frequently affected with some irregularity of action. (5) The constitution is not affected, till some weeks or months after the origin of the disease. A year may elapse before a general cachexia appears. (6) If the primary tumour be removed early, the general health may remain good. (7) Primary carcinoma becomes constitutional, by lymphatic glands, by continuity of tissue, or by the blood. (8) The secondary tumours resemble the primary one closely. (9) Growth is favoured by local circumstances, heat and moisture. (10) When re-

145  
currence takes place it is general-  
ly on the seat of the old tumour.  
Were it a constitutional disease  
this could not happen. (111) We ob-  
serve the same tendency to recur-  
rence in tumours undoubtedly  
local as Sarcomata and Eucha-  
dromata.

"Against the Local theory it  
may be said—

- 1 Carcinoma recurs certainly  
after removal.
- 2 The disease is frequently Hered-  
itary.
- 3 The varying degrees with which  
carcinoma runs its course, and  
the varying degrees of virulence  
with which it affects different  
individuals, resemble constitution-  
al diseases.

4 "The Geographical distribution of carcinoma.

(1) "The first of these four points goes for nothing, as recurrence only proves that carcinoma spreads very rapidly, and has not been altogether removed at the time of operation. In the same way it is difficult to prevent syphilis, although we remove the undoubtedly local affection - the hard chancre.

(2) "Carcinoma is undoubtedly hereditary, but this does not prove that it is constitutional, in the sense of existing as a latent poison in the blood. Supernumerary fingers and toes are hereditary, but cannot, in this sense, be called a constitutional affection.

Carcinoma

Two important points-

Great blood supply

Its cyst wall

(3) It is true that carcinoma assumes more virulent types in some cases than in others. But we see this also in regard to syphilis. Some persons contract the latter disease very readily and show its worst forms. A peculiar diathesis appears, in some constitutions to exist, which favours the development of local disease. But this does not give rise to the disease."

Two points about carcinoma are important. (1) Its great blood supply. This is well seen after operation. Many vessels require ligation. Owing to this fact we understand its rapid manner of spreading. The tumor itself is not vascular. This favours the most



that the disease resembles an independent actively growing organism, rather than that it is a manifestation of a constitutional disease.

(2) Carcinoma is not enveloped in a cyst wall. Thus we see how readily it can spread its elements around and how difficult it is to eradicate these. We have no means of knowing how soon the disease begins to shed its influence around into the neighbouring connective tissue. Probably this begins with the earliest formation of the carcinomatous tissue. It is difficult to see how it could be otherwise. Long before the growth can be called a tumour, it is shedding deleterious influences. And when operation takes place

Carcinoma

Therapeutics

Sharp spoon

tissue that looks normal to the eye, may be teeming with poisonous ingredients. X may 8-1

Therapeutics. Internal remedies are useless. Cundurango bark, of which much was expected, is no better than the rest. Our only hope is in local measures.

The Sharp Spoon is one of the best of these. Chloride of zinc, nitrate of silver, arsenic, Pyrogallic ointment, all of these as pastes are valuable. They must be kept applied for several days. An advantage is, that it destroys only diseased tissue. Strong mineral acids and salts, as fuming nitric acid, caustic potash Vienna paste are useful for small growths. Glacial sulphuric, made into a

paste with saffron is good for fungous tumours. Mineral salts, Antimony, zinc, acid nitrate of mercury, chloride of zinc 1 part flour 4 pts is beneficial applied on lint. It is made into a paste and applied four lines in thickness and retained for 48 hours. It destroys tissue to the depth of 1 1/2 inch. When the tumour is large, the paste should be applied only at the border. Small sticks of caustic pushed into the circumference of the tumour, cause it to shrivel up. Incisions may be made into the tumour, and pieces of lint applied dipped into solution of chloride of zinc. Chloride of bromine should not be employed, on account of the unpleasant fumes.

Carcinoma

Treatment (cont<sup>d</sup>)

Compression

G. Buchanan's theory of  
compression

Excision

Compression by springs has been employed. It acts, by producing atrophy. The bloodvessels are compressed, and the tumour dies through want of nourishment. This has been said to relieve pain, but delicate constitutions cannot stand the oppressive feelings occasioned. In some cases it has been thought only to diffuse the tumour more widely. G. Buchanan relates a case, where compression caused total disappearance of the growth, but he asks, if dispersion of poisonous elements into the system can be accompanied by good results.

Excision is of all remedies the best, but should not be resorted to in all cases. If unwisely used, it may hasten a fatal result. It

Carcinoma

Brodie's experience

is undoubted that carcinomatous tumours may be removed, with no return. On this point Brodie says - So long ago as 1832, I removed a breast with scirrhous tumour, and the lady is still in good health.

Since the operation she has married and has children. Last year I was called to see a lady about another affection, from I removed a breast 13 years ago, with no return. Very lately I heard of a lady who had the same operation performed six years ago, and is still well. Even though the tumour be not fully eradicated by operation, life may be much prolonged, and rendered more comfortable. The whole constitution becomes, to a certain extent, built-up, when



the power of auto-inoculation is removed.

As a rule, after diagnosis, the sooner the tumour is removed the better. Though at first it be a purely local affection, we have no means of knowing how long it will remain so. Removal seems, frequently, to give a check, and to cause it to relapse into a more chronic condition. If we delay operation, and try other means, we lose valuable time, during which the tumour is sowing seeds in the glands, and throughout the body.

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Sarcoma  
Definition

Description

### III Sarcoma.

"Sarcoma is a tumour, composed of tissue, which is either purely embryonic, or is undergoing one of the primary modifications seen in the development of adult connective tissue."

This class of tumours is somewhat new. It includes a number of formations formerly receiving different names. Thus the name Soft cancer, was applied to all Soft Sarcomata of bone. Osteoid cancer, included Melanotic Sarcoma, and Ossifying Sarcoma, and broken down Sarcoma, were known as Blood cysts.

Sarcomata assume every variety of form and consistence. Its cells may vary much in shape

Sarcina

Anatomy  
Small celled

and size. From this are derived the different varieties of the disease.

They may be small or large, polygonal or spindle-shaped, and may contain many nuclei. They are well provided with blood vessels.

Degeneration may set in very rapidly, forming round deep ulcers.

A tumour after removal, yields, after standing for 24 hours, a milky juice like that of carcinoma.

(Microscopic specimens Nos. XXIII-XXVI)

Small celled Encephaloid Sarcin-ata, are composed of small round cells, with scanty intercellular substance. They grow rapidly, and are most malignant. They are very prone to infiltrate neighbouring parts. They bleed freely, and tend to affect the lungs.

Sarcosia

Spindle celled

Small

Large

2 Spindle-celled are divided into

- (1) Small
- (2) Large celled tumours.

The small celled are firm and pink in colour. They may form on almost any tissue. They are often benign but may be most malignant. A special feature is their tendency to recur after removal sometimes after the lapse of many years. Usually, the late recurrences, are more malignant than the early ones. There is a case recorded in which four recurrences took place in 36 years.

(2) Large celled resemble the last, but the cells are much larger. They are seen very frequently in bone, many cases of spontaneous fracture being due to them. They are encapsuled, and are thus not so liable to

Sarcoma

Giant-celled

Melanotic Sarcoma



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infiltrate other parts as the small celled variety. They show a tendency to change in structure, on recurrence after removal.

Oval celled are much like the last, but are more malignant, and grow very quickly to large dimensions.

Neyeloid or Giant-celled are characterized by cells  $\frac{1}{100}$  -  $\frac{1}{50}$  inch in diameter. They are masses of protoplasm, and have scanty intercellular tissue. Like other sarcomata they are very vascular, and often contain quantities of blood internally. They grow usually from bone, and attain a large size.

Melanotic sarcoma occurs often over a large surface. It attains a

Sarcoma

"Idiopattic multiple  
Pigment Sarcoma"

large surface growth, and is seen on mucous membranes. It is usually of the spindle-celled variety. It is also seen where pigment exists normally in the body, the skin, and choroid coat of the eye. Of all forms this is the most malignant and rapidly growing.

Erickson says of a Melanotic Sarcoma have reached the size of a fist-bert, secondary deposits are certain to have already taken place. Operation would therefore be useless.

According to Kapsi, a typical form of Sarcoma Cutis is the Idiopathic Multiple Pigment Sarcoma. He has seen 25 cases of this form, all in men. The last case he met with was as follows - The disease began on

Both hands and feet, it is more common on the flexor surfaces. It then extends to the limbs, and finally reaches the face. It consists of tubercles of a brown colour round in form and as large as peas. They are, as it were, set in to the corium, and may very easily be mistaken for pythitis. In other cases, it begins as large cyanotic discolourations, soon showing hard infiltrations. Both the discoloured areas, and the tubercles, may undergo retrograde changes, and disappear within a few weeks leaving behind discolourations and plicatures. The plaques atrophy in the centre, while the tubercles at the periphery, grow to the size of hazel-

nuts. During this time, the hands and feet became much thickened and deformed. The fingers assume a spindle shape, and the skin is of a dark brown colour. Pain in the early stages is not excessive, and is felt only on pressure. But handling things, and walking, are impossible.

In time, small tubercles of an elastic consistence and brown colour, appear in the face, in some cases, ulcerating. The mucous membranes become affected, causing, frequently, bleeding from the nose. In a few cases on which post-mortem examination was made, the liver, spleen, and kidneys were found beset with pin-

Sarcoma

Inflammatory Fungus  
Ulcer

lar formations.

This form is somewhat more favourable than the others, life may be prolonged for 6-10 years or more. The end is invariably fatal.

Another form of Sarcana is the Inflammatory Fungous Ulcer. It is a rare variety. Kaposi has seen but three cases, Dubriong has met with one. It consists of small and large tubercles, on various parts of the body and limbs. After remaining for some time, they degenerate, removing the epidermis. On the ulcer thus formed, arise spongy excuberances. It has been seen on the mamma and knee. In structure, it consists of masses of

Sarcina

Situation

Grickson's case



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lymph cells in a delicate retic-  
ulum. The larger cells, show nuclei  
and are arranged in strings.  
Heitzmann considers the growth  
a Sarcoma.

In regard to situation, in the  
breast, Sarcomata resemble Ad-  
enomata, but grow more quick-  
ly than these. In some cases  
they return after operation. This  
is the case more especially  
when they are of very rapid  
growth. Erichsen removed in  
1859, a large tumour of this kind,  
along with the atrophied mam-  
mary gland. Recurrence took  
place, in 1861, '64, '65, and '68.  
But although removed so often,  
the growths never developed ele-  
ments of malignancy. Constitu-

Sarcina

Cystic Sarcina

tional cachexy, and visceral affection remained altogether absent.

In most cases of this nature, the tendency to recur wears itself out, but instances are not wanting, in which complete removal was impossible, the disease destroying life, by the extraordinary activity of growth.

Cystic Sarcoma is frequently met with. In some cases the solid elements preponderate, in others the cystic. When on the breast, such a tumour appears to consist of hypertrophy of the glandular tissue, studded with minute cysts. It occurs in women about 30 years of age, and may be traced to former injury or inflammation. On examination, it appears hard

Sarcina

Treatment

Dissection of  
Unilocular cyst

and heavy, the surface being covered with minute elevations. The disease confines itself strictly to the mammary gland; the lymphatics, and the skin overlying it not being implicated.

Treatment. When only one small cyst exists, it may be removed by puncture, the fluid draining away. Stimulating embrocations, as equal parts of camphorated oil and weak spirit, and  $\frac{1}{8}$  part of liquor plumbi, may be tried.

When there is one large cyst, it may be dissected out of its bed, the mammary gland being left intact; but when the cysts are multiple, the whole breast should be removed. Operation should not be undertaken in the early stages.

Larvina

Larvina of bone

as growth of the tumour may spontaneously cease. When the tumour becomes large and heavy, we may remove it with good hopes of success. The disease not being malignant, it will probably not recur. In some cases they show great tendency to recur, as many as eight removals having been undertaken with success.

In bone, sarcoma occurs chiefly as lyxoid or Spindle-celled. It develops in the cancellous tissue, frequently following some form of injury. All bones are liable to them, but the most frequent seats, are the lower end of the femur, and head of tibia, head of humerus, and lower end of radius. At first, local, the disease is rapid-

Sarcina

Treatment

Paget's views



ly growing, has a strong tendency to become malignant. In these latter cases recurrence, in internal organs, is frequent. They frequently invade joints by destroying the bone and cartilage overlying.

No Treatment is of any avail except removal. In cases of non-malignant Sarcomata of bone, Paget claims for enucleation a trial. In regard to deciding whether the growth in question be simple or malignant, he says - at either end of the scale of life, the case is probably malignant. If the tumour have been present more than two years, it is probably not malignant. If the tumour have doubled in size in six months, if it be situated on

Sarcoma

Sarcoma of testes

Sarcoma may  
simulate hydrocele.

the shaft of a long bone, and if the lymphatics be enlarged, it is probably malignant.

In the Testes, they give to the organ an enlarged, indurated appearance, containing a number of small cysts. The testes may reach a very large size, without showing symptoms of malignancy. The structure of the gland is much altered, the mass containing, in some cases cartilage, myxoma tissue, fibroid tissue, and sarcomatous elements.

It may simulate Hydrocele, but, according to Sir A. Cooper, want of translucency, its greater weight, and the varicose state of the veins of the

Sarcoma of testes

Treatment

cord, should prevent it from being taken for the simpler affection.

Treatment by operative measures offers the only hope of success.

## Appendix

Method of preparing stained specimens.

To stain with lithio-carmin.

Immerse the specimen -

- 1 In aether and alcohol equal parts  
for quarter of an hour
  - 2 For two minutes in alcohol 95%
  - 3 For one minute in water
  - 4 For five minutes in lithio-carmin.
  - 5 For few minutes in alcohol to which a  
small quantity of succinic acid has  
been added. (Saksarwe alcohol)
  - 6 For several minutes in absolute  
alcohol
  - 7 Two minutes in oil of cloves
  - 8 Mount with Canada Balsam.
-

To demonstrate the Leptra bacillus,

Immense -

- 1 In solution of carmine to stain the blood vessels
- 2 In alcohol - (Saksawre alcohol)
- 3 In absolute alcohol
- 4 In gentian violet to colour the bacilli
- 5 In water to wash
- 6 In solution of Iodine to fix the colour
- 7 In absolute alcohol, when the specimen is transparent
- 8 In oil of cloves
- 9 Mount in Balsam

The blue rods are the bacilli

The blue cells are common to Tuberculosis, Lupus &c

The red cells are granulation cells.

