Syphilis

In its relation to pregnancy.

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Syphilis in its relation to Pregnancy

The object of this paper is to give the details of cases of Syphilis in pregnancy, to discuss Syphilis discovered in the Placenta, and to shew the bearings of the latter on the transmission of syphilis from father to mother & from mother to fetus.

Cases.

I. The first case to be narrated is one which came under the writer's care in January 1875. Mrs. B., wife of a railway guard, 18 years, was delivered Jan 2nd 1875 of a dead female child. She gave the following history: She had been married 8 months; at the end of the 2nd month after marriage she noticed a sore on external genitalia; in the 3rd month an eruption appeared all over her body. She then became acrid; these symptoms disappeared under treatment; she was not delivered; in the 5th month after marriage another eruption appeared around the anus which still persists; in the 7th month she almost lost her voice; she believes she has been pregnant 8 months. Examined at the time she had a few papules in the neck & arms, evanescent rashes on the arms & a husky voice.

The Child when born presented a very peculiar appearance. The abdomen was greatly distended & amputated, stripped of cuticle which was wrinkled & feeling off the rest of the body; where the cuticle was stripped off the skin was of a bright-crimson colour, as other parts, purple; on the left side of the neck was a petechia. Lengthy child 17 inches; attachment of cord 9 inches from vertex; no visible ear ossa.

On opening the abdomen a bubble of gas escaped. The peritoneal sac was found distended with a serous-sanguineous fluid to the extent of 8 fluid ounces. The pleurae, pericardium, cranium, & loose tissues of the scalp...

(2) "Infantile Syphilis" (New Sydenham Soc. translation) p. 90.
were all found distended with the same fluid. Under
the microscope this fluid showed ill-formed, columned
blood-corpuscles, solitary, floating about in the fluid &
affiliations of columnless corpuscles.

In examining the viscera nothing specific could
be found in any of the organs except the Thymus gland.
Externally this showed no signs of anything wrong but when
cut into & squeezed a yellowish, amorphous, opaque fluid
exuded which showed under the microscope the characters
of pus.

The lay bones at the juncture with their epiphyses,
& the ribs where they joined their cartilages showed indistinct
marks both macroscopically & microscopically of syphilis
osteochondritis of Heberden.

The placenta was large, firm, & changed pale.
When cut into it kept a deep red opaque stain.
Under the microscope the fetal vessels showed no trace of
the tuft of vessels they contained, being enlarged by an
enormous increase of cell growth around the vessels. The causes
of the latter was obliterated, no blood from the fetal vessels
until 4 hours & hence the pale appearance of the organ was seen
to be due to anemia. The decidua portion of the organ
affected was with a similar increased cell growth.

Remarks:

(1) Paul Dubois was the first to point out the lesion of the
Thymus gland publishing his research in 1867.
(2) Dray gives the following account of the discovery:
"Having seen children whose parents had had syphilis
since a few days after birth, instance by being able to
explain this termination by the severity of the symptoms on
the skin or mucous membranes, he was induced to submit
their viscera to a more strict examination than is generally
made & thus frequently succeeded in detecting this affection.
"The affection almost always present itself in the
Case II

This case did not come under my own notice, it appeared in a paper read before the Brit. Med. Assoc. 1875 by Dr. Angus Macdonald to whom I am indebted for the particulars.

Mrs. M. was perfectly healthy when married. Twelve months after marriage she gave birth with aid of instruments to an apparently healthy & well nourished child. Within three weeks afterwards however a peculiar rash appeared on the child's skin which became erythematous & discoloured & squamous. Constitutional symptoms appeared at the age of the anns & the child ultimately died when only 7 weeks old, rather suddenly without any obvious cause other than its general syphilitic condition.

The mother ended her the child & the same week as it died began to suffer from cracked nipples. These shortly afterwards ulcerated & exfoliated forming blisters on the breasts & other parts of the body; then the tongue & mucous membrane of the mouth became severely attacked. This followed an almost complete loss of hair.

After six months the external manifestations of syphilis began to disappear & she again became pregnant. At 7½ months she fell in labour a second time & after 36 hours of ineffectual efforts to expel the contents of the womb, forceps were applied & a child extracted which at first seemed dead, but after half an hour's efforts at resuscitation the child,
came round. A second foetus was found new in the womb & was delivered by turning. This foetus was dead & apparently had been for a day or two. The labour would seem to have come on owing to it, Willis having escaped prematurely. The first child died after 24 hours.

The father of the children admits having had an ulla in the penis twelve years before, but had however no secondary symptoms nor any gonorrhoea.

The dead child (which alone was examined) presented no evidence of syphilis on the skin, but the bones showed unmistakable osteochondritis syphilitica.

The placenta were pale, large & anaemic-looking but showed no evidence to the naked eye of the characteristic changes associated with syphilis, but when submitted to microscopic examination abundant & unmistakable evidences of syphilitic change were found in both the villi & the maternal portion.

Case III

Mrs C. Liverpool gave me the following history March 18, 1877. She was married about 14 years ago. About three months after marriage she became severely ill, an eruption breaking out all over her, & the throat became sore, & she had to go home to her parents. Her husband became similarly very ill at the same time & I had to go to the hospital. She was pregnant when she went home & at full term was delivered of a healthy looking child, which in a few days broke out in zones & died in 5 weeks. All her children have been healthy looking when born. The following is an account of her children:

1st child died aged 5 weeks
2nd - - - 6
The 3rd child died aged 3 days
4th Miscarriage at 4th month
5th still alive & apparently healthy. The
bridge of the nose is sunken & there is purulent
nasal discharge. - Then a few weeks old he
suffered severely with croupiness as the other
children did.
6th child lived 18 months
7th - 3 years
8th - 5 weeks
9th - Still-born
10th - Still-born
11th - lived 14 months

I saw this child after it was dead. The hands &
feet were fissured, the mouth was ecchymosed & had
evidently been bleeding. It died unexpectedly
in a fit. Mrs. X says she has never suffered
so severely as in her first pregnancy but has el-
ways been subject to one illness.

Case IV

6th April 1872. Mrs. X. brought me the child aged 3 mo.
It was covered with a papular, copper colored eruption.
The nostrils were almost completely stipped. The
epiglottis contracted. The mouth was necrotic. It
appeared healthy when born. No nurse had taken
charge of it in a few weeks before. She suckled the child
& it has never been suckled by any one else. She
has two children apparently quite healthy. Between
the birth of the younger of these & this last, she has
had two miscarriages. She has never had any
signs of syphilis. Her hair has never fallen off. The
Cervical glands were not enlarged. No other suckles
this child with nearly 8 lb. & 4 oz. but her own

18 months.
(1) Archiv für Gynäkologie B.4 H.3 S.505

(2) Archiv für Gynäkologie B.5 H.1 S.1
Syphilitic disease of the Placenta.

has only been brought to light within late years. The
reason why it so long remained undiscovered was two-
pold. The pale appearance of the placenta led prac-
titioners to set it down off-hand as "fatty" & thus
prevented them examining it further: & then again
there was often great difficulty in ascertaining the
entainty of syphilis in a given case. A child might
be born dead without any external evidence of the
disease & the parent might show no signs of it. This
difficulty has been removed by Wegner's discovery
of syphilitic inclusion, syphilis. He has shown that
this disease can always be made out in the long bones of
syphilitic fetuses at their junction with epiphyses,
or in the ribs where they join their cartilages, even if
the fetuses have been macerated some time.

With this test as his guide Frankel has worked
out his discovery of the nature of syphilis disease
of the Placenta. According to him, if we have con-
stitutional syphilis in either parent, the disease in
the placenta will vary as is originates. If the father
only is the victim of the constitutional disease & before
a child affected with syphilis, then the part of the
placenta primarily affected, will be those most connected
with the villous a foetal portion of the placenta. On
the other hand, if the mother only, is primarily affected
with the constitutional disease, then the maternal
a decidua portion of the placenta will become
first the seat of the diseased action. But if
both parents are affected from the first, or even
if the mother has been infected during the pregnancy
secondary, we shall have a mixed form of the disease,
that is, we shall have disease of the fetal villi, &
combined with that, disease of the maternal or de-

cidual portion.

In cases I & II when both parents were

syphilis, either at the time of conception or the

mother became so shortly afterwards, the combined

form of the disease was found in such case.

Up the disease when confined to the fetal villi

Trechsel says, "The characteristic of the above
diseased alteration of the placenta is therefore an
increase of volume, weight, & mark, likewise of

insufficiency of the organ. Microscopically, the thick

plump form of the fetal villous is the cause of

this deformity, filling up the villous space by a growth

material, from the vessels of numerous middle-aged cells,

complicated with a proliferation of the epithelial mantle

which clothes the villi. In the higher grades of this

growth of the cellular content of the villi there follows

obliteration of the vessels, & lately complete atrophy of

the villi. The name 'disfiguring granulation cell increase

of the placental villi' is therefore applicable to this dis-

case.

This obliteration of the fetal circulation in the dis-


cased part of the placenta, must throw its ishows, on the healthy portion & so lead to extravasations, &

thus render the disease still more fatal to the foetus.

The villi of the whole of the placenta are uni-

formly affected as a general rule. A portion of the

villi in a cotyledon may be affected or a whole

cotyledon whiles the part around are healthy. The
disease begins in the basilar part of villi & it

tends to the terminal part, involving as procedure,

the branches of the larger villi.

Of the mother as constitutionally syphilitic...
(1) P. 17 (Op. Cit.)

(2) P. 22
before conception, or became so immediately after. The father was free from the disease; then we find the effect different. It is confirmed at first at least, to the maternal disease, and appears as a sort of diffuse inflammation, irritation analogous to, if not identical with, the disease described by Virens as 'indometritis gravidarum placenta'.

If both parents are constitutionally syphilitic, or the mother becomes so shortly after conception, or in consequence of being poisoned by the syphilitic fetus she is carrying, then we have both the diseases present in the placenta.

Having related the cases & given a resumé of syphilitic disease of the placenta, we now come to consider the subject of transmission of syphilis through the placenta from fetus to mother & from mother to fetus.

As to the manner in which the fetus may become infected, Dr. Davis's observations & researches lead him to the following conclusions:

I. When a man affected with syphilis has had connection with a pregnant woman, especially if she have not been pregnant long, we must not, even if she remain healthy, calculate with certainty that the child will be syphilitic; it is wise to proceed with caution. It is carefully during the first months of its life.

II. The influence of the mother he says:

III. "A woman suffering from constitutional syphilis may affect the fetus in two different ways:
either by throwing off a collected ovum, or by furnishing it during pregnancy with elements of nutritive strength suited to the specific diarrhoea.

And this latter is only possible between the 4th month of the end of the 7th month of pregnancy.

Cases II & IV seem directly from Discey's first conclusion. For in case IV the mother does not appear to have had the slightest manifestation of the disease & in case II it was not till after the birth of the child that the mother showed signs of the disease.

In Cases I & III it is most probable that the mother showed symptoms which were infected by the foetus at the time of its formation. The mother being primarily affected at the same time.

The question which now must concern us presses on these:

1. Can a patient that has received syphilis from her husband transmit the disease to her mother?
2. Can a woman infected during her pregnancy transmit the disease to her foetus?
3. Can a pregnant woman having connection with a syphilitic man transmit the disease to her foetus without herself becoming infected?

To the first of these queries, 'can a syphilitic foetus transmit the disease to its mother?' Discey answers in the affirmative; in support of this opinion & Hutchinson has lately come forward to show that is not only can but must; that a woman who bears a syphilitic child must have had the disease in some form or other.

In the 'Medical Times & Gazette,' Dec. 9. 1876, p. 643, is published a paper read by Mr. Hutchinson before the Hunterian Society on "Collie's Law."
tical Observations on the Venerable Disease. "He following fact appears to me very deserving of notice: I have never seen or heard of a single instance in which a syphilitic infant—(although it should be noted) suckled by its mother—had produced ulceration of the breast; whereas very few instances have occurred where syphilitic infants had not infected a strange, dried nurse who had been previously in good health.

Hutchinson's experience corresponds with this. He has never seen a woman who has borne a syphilitic
child contract chancre on the nipple from the child.

His natural conclusion is that she must have been syphilitic in some form.

In the face of it, Case II might seem an exception,
but there is no evidence of true chancre. The placenta of the
first pregnancy was not examined or we are in ignorance as to
whether the male or portion was affected.

Concerning the mode of transmission of the disease
Hutchinson says: "Admitting then the truth of Collie's
observations, and next that it cannot be explained
by asserting that all mothers of syphilitic infants
have had chancre syphilis, we are driven to the con-
clusion that they must have had syphilis in some
other way. The method suggested is that of direct
blood-contagion by the influence which the fetal blood
exerts on that of its mother. XXXX. Not only does it
prove that the fetus, at times, has invariably,
infected its mother, but it seems to prove that this is
deeply to her syphilitic, in its entirety. If the
contagium passes at all is must be allowed ins-
que potentiality of development. That the mother
of a syphilitic child has had the disease as a
whole or in part or in small degree. is proved"
by her total immunity; afterwards, we must observe that this immunity is exactly the same in the numerous cases in which the woman has never shown the slightest symptom, or is in those in which she may have suffered severely.

"Have we not here a new chapter in the natural history of syphilis opened up? If being proved that a third mode of communication is possible, to change syphilis & inherited syphilis, we must add syphilis by blood contact between foetus & mother."

Now I venture to suggest this regard to this third mode of communication that is should be studied in the light of the newly discovered disease of the placenta & then it will be found that it is not by 'blood contact' or direct blood contact but that it is, even by direct tissue contact or something very analogous to change syphilis.

It is an ascertained fact that syphilis in the foetus manifests itself, if at all, in the skin - chancroidal syphilis of Wegner. With this exception there may be no trace of it to be found in the child's body but the foetal villi of the placenta are sure to be affected by the specific disease. Fränkel says, if the foetus mother were syphilitic in consequence of being poisoned by the syphilitic foetus she is carrying, we may have both diseases in the placenta. But the question is, how the woman poisoned? It is to the placenta that we must look for the solution of this problem. Here, if the foetal alone is affected, we have the disease specifically manifested in the foetal villi. If here we see disease
foetal tissue in contact with maternal tissue. The
membrane membrane of the uterus is rich, supplied
with lymphatics; ordinary chance syphilis
shews itself in the lymphatics as soon as it is seen
itself anywhere; hence it seems highly probable
that the disease in the villi poisons the tissues
of the decidua & after a period of incubation, this
shews itself in a manner analogous to that of aiding
chance syphilis, which runs its course. Secondary
symptoms may or may not follow, or the decidua
may be the only part where the disease is ever man-
ifested in the mother.

Of course this question cannot be settled
without further research, but I think with our
present knowledge of syphilis & its placenta we
are not warranted in concluding that the contrary
by direct blood contact, when we have healthy
tissue of one being in contact with diseased tissue
of the other. In future the history of a case must
not be considered complete unless the placenta has
undergone a careful microscopic examination.

Can a woman who acquires syphilis during
her pregnancy transmit the disease to the child
she is carrying?

It is universally admitted that she can but it
is also allowed that there is a time after which
the pelvis will be safe. Today's disease of eleven
cases leads him to conclude that if she acquire
the disease later than the 9th month she cannot
transmit it. Will the disease of the placenta
then any light on this? I think it will. This
is in turn that a woman can transmit syphilis
the child she is carrying if she acquire it before
R. 19.
the end of the 7th month, but not if she acquire it later? Clearly the result is in the woman's blood between the time of her infection & the birth of the child. The cells of the fetus are floating in the blood & the conditions in this respect are the same as in the 6th month as in the 8th. If therefore the disease is conveyed by blood contact why is it again impossible after the 7th month? The answer would seem to be that it is not by blood contact at all but that the disease is conveyed but by tissue contact & that in the placenta if a woman is infected at the end of the 7th month it will be near the end of the 8th before the chance appears & there is therefore not time for the disease to affect the surface of the decidua before the child is born & so it escapes the disease.

Can a woman who has connection with a man suffering from syphilis convey the disease to her husband becoming affected herself? Dr. Gay says we should not hastily decide in the negative & quite. No analogous case of small-pox which has undoubtedly been conveyed by skin contact.

I. A man infected with primary syphilis had connection with his wife when in the 6th to 7th month of pregnancy. She was not affected at all time as infant was born which soon after presented well marked syphilitic pustule & died in 9 days. The father soon after had symptoms of constitutional syphilis & was cured.

II. A woman who asserted that she had never had syphilis though she had given birth to a child.
which died of it, eighteen months after she married a healthy man. By him she had a child which proved to be syphilitic. She gave no evidence in any part of having venereal infection.

Diday contends that this is an example of the disease being transmitted from the father. The first child is the child of the healthy father, unless the woman has the disease.

With regard to smallpox, though it is very analogous to syphilis, the different mode of entrance in the two diseases forbid us to draw conclusions from them one to the other such as are suggested.

In the two cases cited, from the face that over the woman obtained any signs of syphilis, it is assumed that they did not have the disease but the probability are just as great the other way. In the second case seems strongly to favour Hutchinson's application of 'Coles' law'. Had the placenta in these two cases been carefully examined, it should have been able to form more definite opinion as to them. As it is, there are so obscure the evidence enough for us to deem it possible for a man having connection with a pregnant woman to transmit the disease to the fetus without affecting the mother.

Syphilis, as a disease, which is more definitely understood than many departments of medical science, has greatly been thrown into clearer history by the discovery of the specific
Disease of the Placenta.

John H. Clarke