Syphilis et grossesse
2024

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Syphilis : the most awful MF infection

Congenital syphilis

Confirmed : child with clinical/ biological signs of congenital syphilis

Possible/probable : child born from untreated / bad treated mother

Consequences

- Fetal loss 40%
- Premature delivery 20%
- Congenital infection
  - Early < 2 yrs (1/3)
  - Late < 2 yrs (2/3)

Neonatal mortality 20%
Long term impairment 20%

Newman PlosMed 2013
CDC 2013

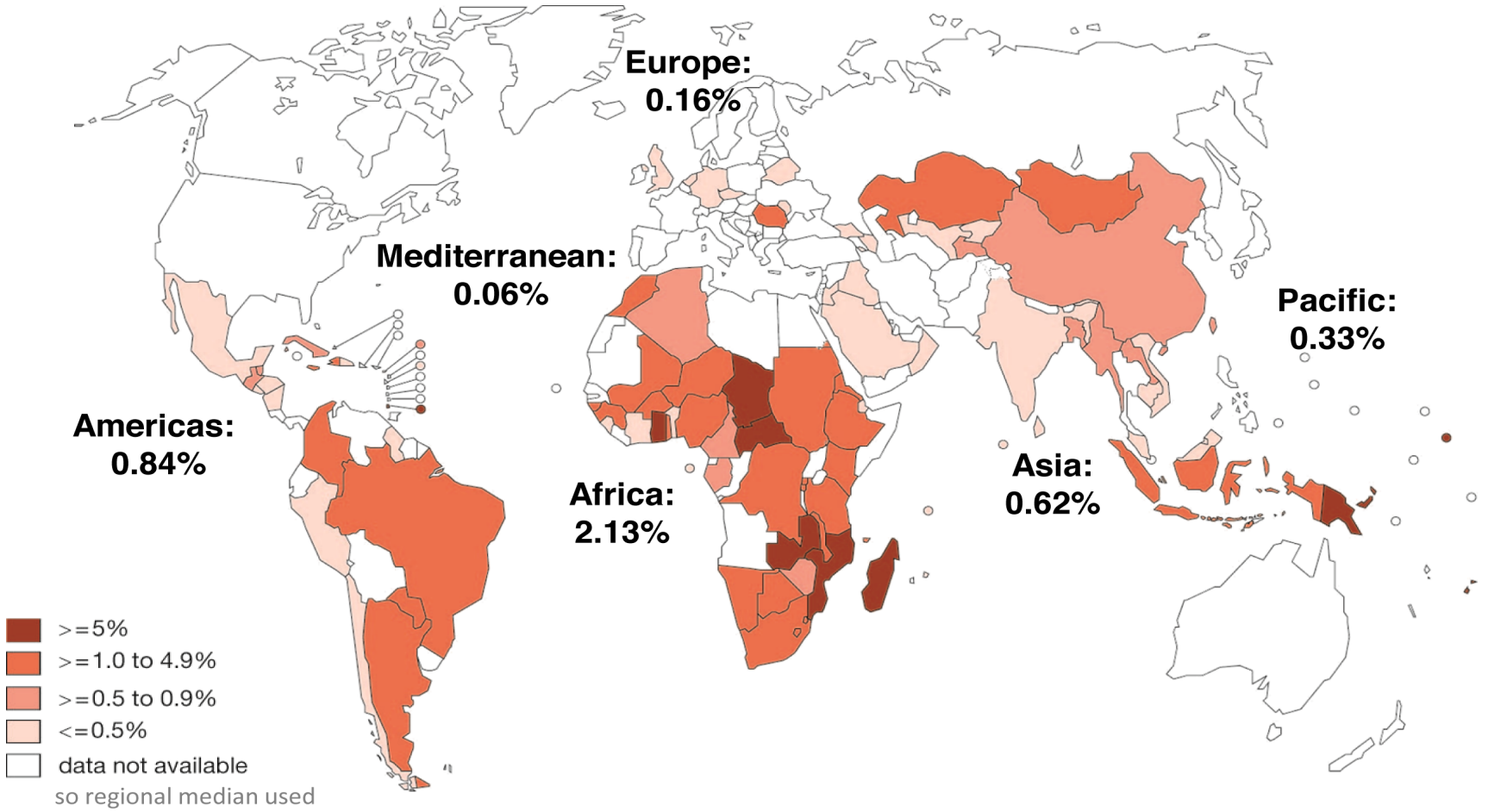
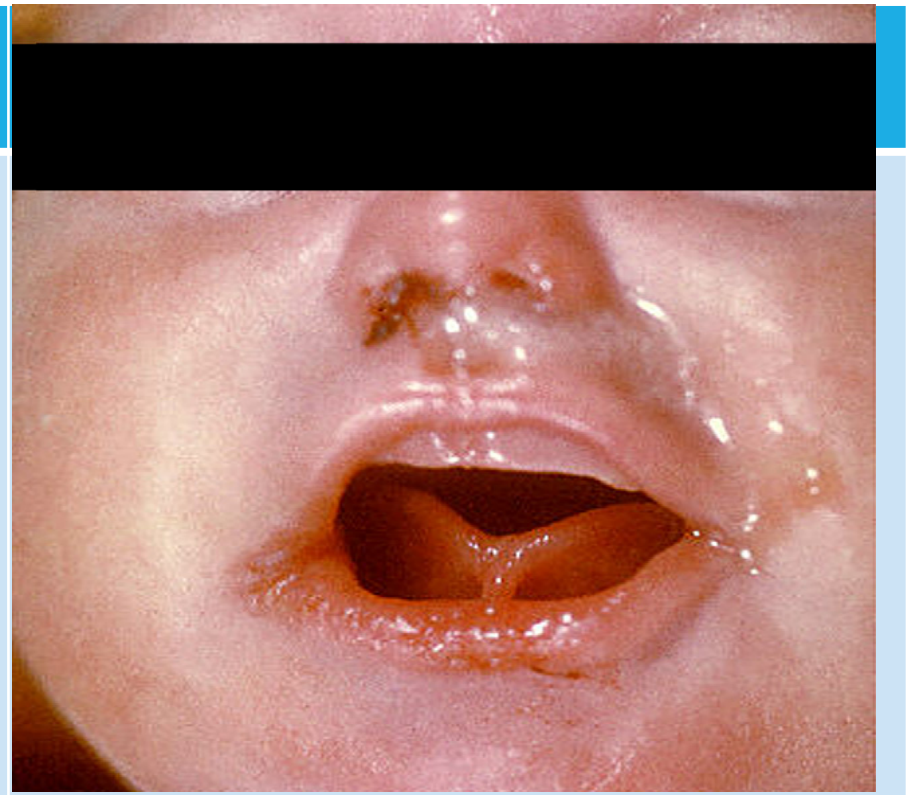


Figure 2. Syphilis seropositivity among antenatal care attendees reported by countries through the WHO HIV Universal Access reporting system in 2008 or 2009, and regional median for non-reporting countries.
doi:10.1371/journal.pmed.1001396.g002

Newman PlosMed 2013

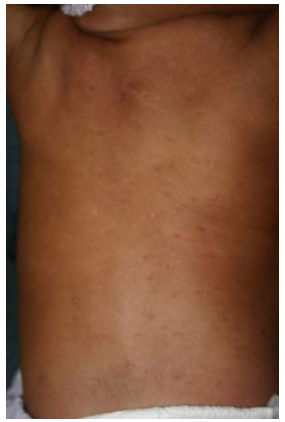
Congenital syphilis

Antenatal ultrasound signs	Early Syphilis
Fetal loss Growth restriction Hydrops fetalis Ascites Hepatomegaly **Hydrocephaly** Brain calcifications	**Osteochondritis 61%** Hepatomegaly 61-100% Splenomegaly 49% Petechial lesions 41% **Other (contagious) skin lesions 35%** **Meningitis 25%** Adenomegaly 32% Jaundice 30% Anemia 30% **Nasal discharge** 22% Nephrotic syndrome 20%

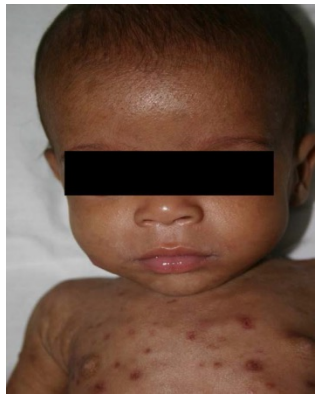


Walker Semin Fet Obstet Dis 2008
Charlier LPM 2014

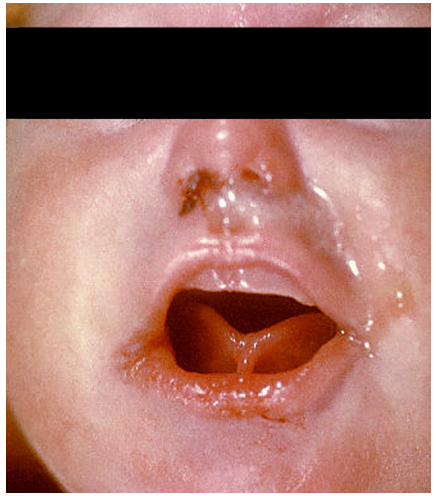
Early congenital syphilis

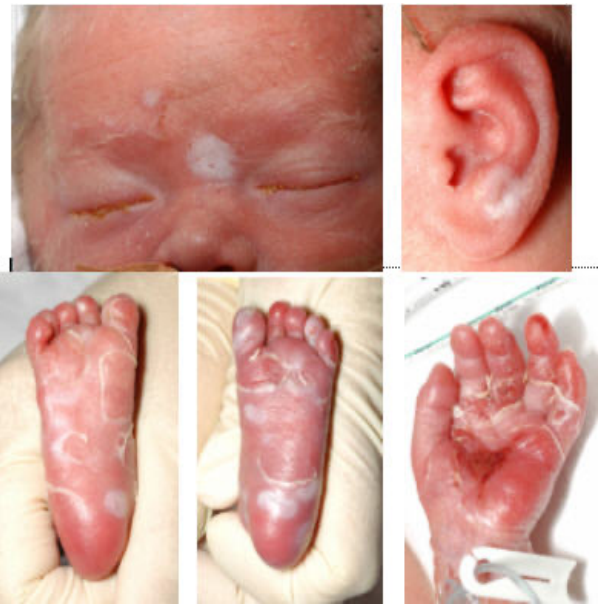


Skin rash

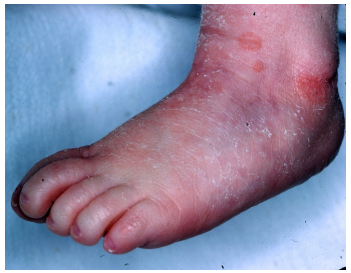


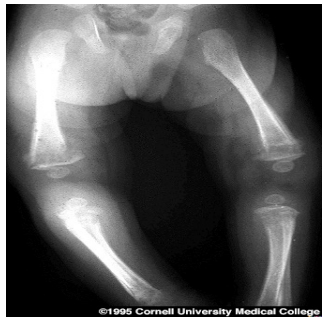
Hydrocephalus



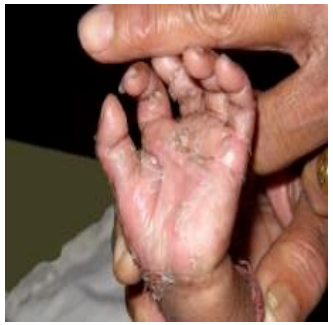


Multiple, punched out, pale, blistered lesions, with associated desquamation of palms & plantars





Osteochondritis of femur & tibia



early evidence of infection - bullae and vesicular rash

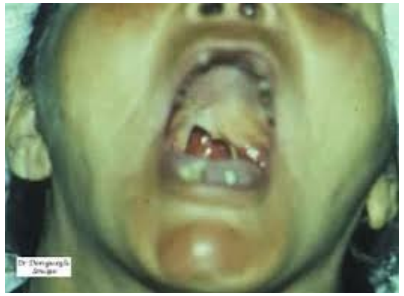
Walker Semin fet Obstet Dis 2008
Charlier LPM 2014

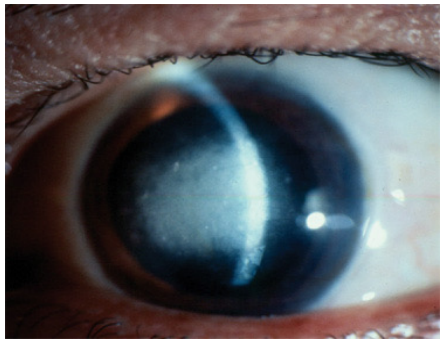
Congenital syphilis

Antenatal ultrasound signs	Early Syphilis	Late Syphilis
Fetal loss Growth restriction Hydrops fetalis Ascites Hepatomegaly Hydrocephaly Brain calcifications	Osteochondritis 61% Hepatomegaly 61-100% Splenomegaly 49% Petechial lesions 41% Other (contagious) skin lesions 35% Meningitis 25% Adenomegaly 32% Jaundice 30% Anemia 30% **Nasal discharge** 22% Nephrotic syndrome 20%	Frontal bossing 30-87% Saddle nose Keratite 25-50% Ear loss **Hutchison teeth 55%** **Bone lesions 30-46%** **Raghades 76%**

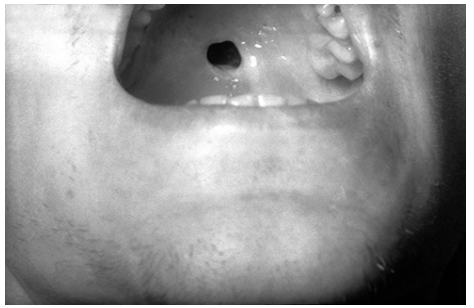
Walker Semin Fet Obstet Dis 2008
Charlier LPM 2014

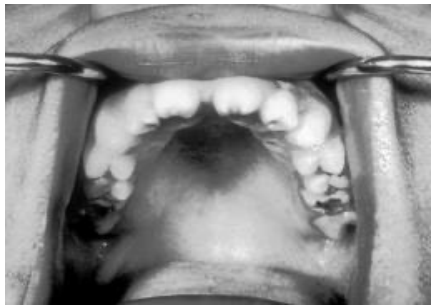
Late congenital syphilis

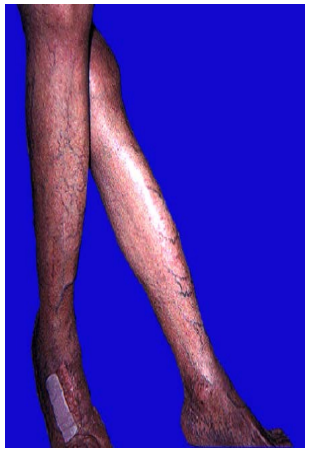


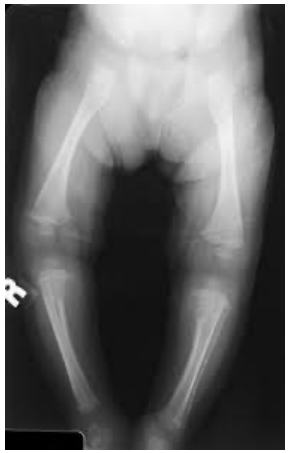


Interstitial keratitis

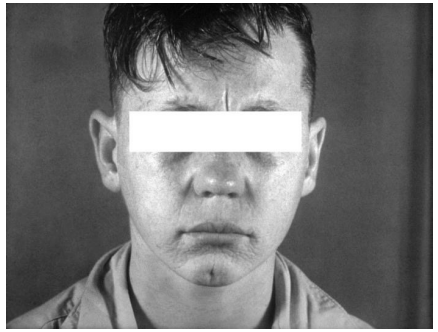


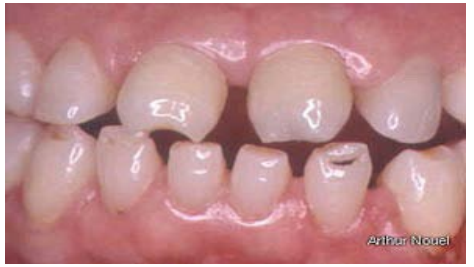




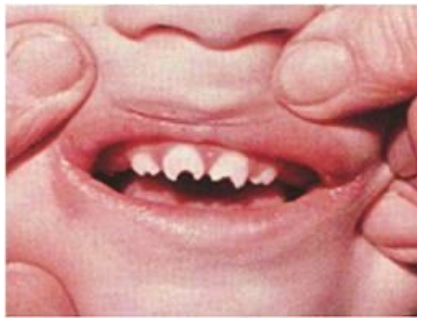


Tibia en lame de sabre





Hutchinson teeth



Walker Semin fet Obstet Dis 2008
CDC
Charlier LPM 2014

MF transmission is linked to 3 parameters

Term of pregnancy at infection as transmission follows a double pattern

- **From 16 WG** → Placenta crossing

  Vertical transm. increases with gestational age /decreases in severity
- **At delivery** → Contact infected maternal genital secretions ++++

Stage of infection

Stage	Rate of transmission
Primary/ Secondary (early)	**60-100%**
Early latent	40%
Late latent	8-10%

Harter AJOG 1976
Fiumara Clin Obstet Gynecol1975

MF transmission is linked to 3 parameters

Term of pregnancy at infection

Stage of infection

Maternal treatment

Adequate = penicillin-based treatment administered

before the 3rd trim and at least > 30d before delivery

is the most important parameter

Harter AJOG 1976
Fiumara Clin Obstet Gynecol1975

MF transmission is linked to 3 parameters

Term of pregnancy at infection

Stage of infection

Maternal treatment

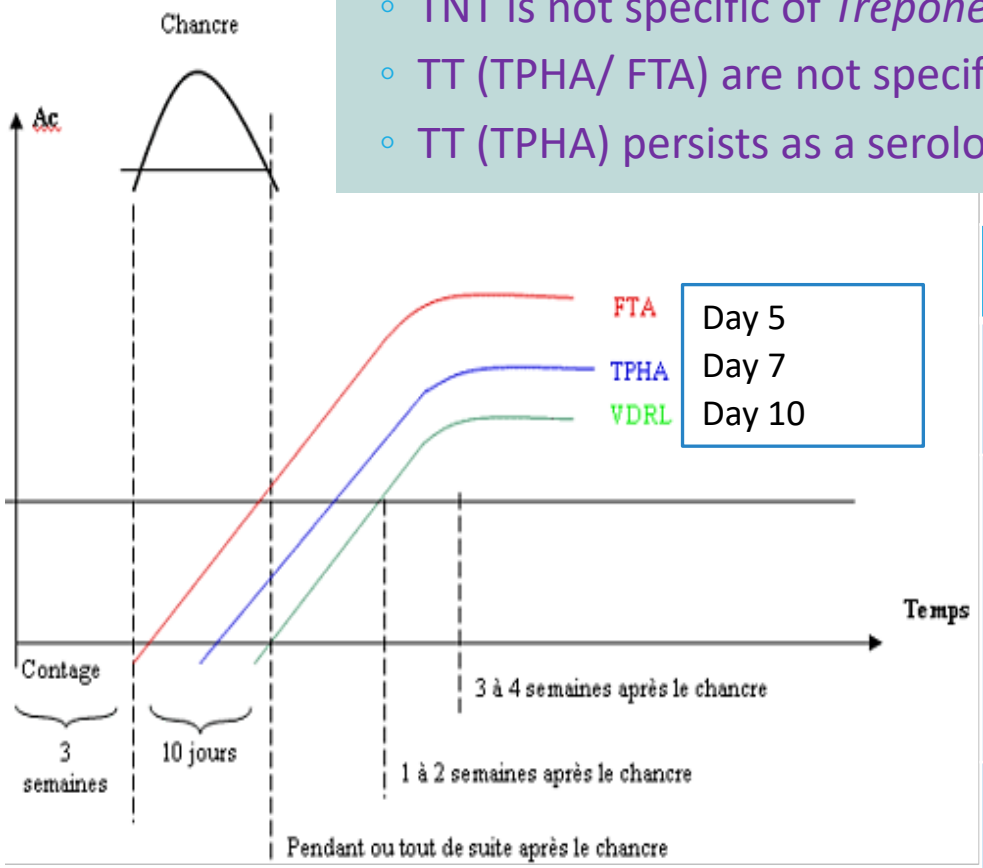
Tableau 2 Facteurs de risque d'atteinte fœtale.
Table 2 Risk factor of fetal effects.

	Absence d'atteinte fœtale (56 cas)	Atteinte fœtale (29 cas)	*p*
< 3 consultations	17 (30,3 %)	16 (55,5 %)	0,025
Absence de traitement	2 (3,6 %)	13 (44,8 %)	0,01
≥ 2 injections Extencilline®	43 (76,8 %)	9 (31 %)	0,001
Délai traitement—accouchement inférieur à un mois	10 (17,8 %)	22 (75,9 %)	0,001
Taux moyen VDRL chez la mère	35	46	NS

Carles JGOBR 2008

Maternal diagnosis

- TNT is not specific of *Treponema*
- TT (TPHA/ FTA) are not specific of *pallidum sp.*
- TT (TPHA) persists as a serological scar



3 tricks	
TNT+ , TT (TPPA)- **→ false positive**	Double check and check for circulating anti-coagulant
TNT-, TPPA + **→ early infection HIGHEST RISK** **→ or serological scar NO RISK**	How to distinguish? → Past medical history → IgM → Repeat testing 2 weeks later
Repeat TT and TNT if necessary	Multiple partners - Past history of STI - Current STI

Maternal treatment

Positive treponemic test

→Start treatment immediately in all cases, except if proof of complete adequate previous treatment is available and no risk of new infection

→ Double check (Elisa, IgM, FTA…) and perform TNT

- Treat ideally before 16 WG, at least before T3
- Penicillin always (prevention of Jarisch- Herxheimer)
- Evaluate the newborn
- Evaluate for other STI/partner(s)
- Check for TNT decrease at M3, M6 and M12 + at delivery++

Maternal treatment

Early infection < 1yr

Penicillin 2.4 M units/ week 2 weeks : 2 doses

Xylocain allowed in pregnancy

Later infection > 1yr

Penicillin 2.4 M units/ week 3 weeks

NO MISSED DOSE ->> 9 days interval : restart from scratch

https://www.cdc.gov/std/tg2015/tg-2015-print.pdf

Neonatal evaluation

AP-HP. Centre Université de Paris

CNR Syphilis

Clinical evaluation + paired serum TNT mother / child

→ Situations requiring maximal evaluation and antibiotic treatment

→ Situations with minimal risk

→ Situation without risk: no further evaluation/ NN treatment

Procedure GH Centre Paris et CNR Syphilis

Neonatal evaluation

AP-HP. Centre Université de Paris

CNR Syphilis

RISQUE
Clinique BB
Traitement maternel
TNT BB
TNT BB/maman
IgM BB
PCR BB
CAT

Neonatal evaluation

AP-HP. Centre Université de Paris

CNR Syphilis

RISQUE	MAX
Clinique BB	**Signes cliniques**
Traitement maternel	**AUCUN OU MAUVAIS OU < 1mois avant accouchement**
TNT BB	+
TNT BB/maman	**>4**
IgM BB	+
PCR BB	+
CAT	Rx/PL/bio **PENI G 10-14j 150.000U/kg/j**

Neonatal evaluation

AP-HP. Centre Université de Paris

CNR Syphilis

RISQUE	MAX	NUL
Clinique BB	**Signes cliniques**	Examen normal
Traitement maternel	**AUCUN OU MAUVAIS OU < 1mois avant accouchement**	Complet < 16 SA
TNT BB	+	-
TNT BB/maman	**>4**	O
IgM BB	+	-
PCR BB	+	-
CAT	Rx/PL/bio **PENI G 10-14j 150.000U/kg/j**	**RIEN**

Neonatal evaluation

AP-HP. Centre Université de Paris

CNR Syphilis

RISQUE	MAX	NUL	MINIMAL
Clinique BB	**Signes cliniques**	Examen normal	Examen normal
Traitement maternel	**AUCUN OU MAUVAIS OU < 1mois avant accouchement**	Complet < 16 SA	COMPLET > 16SA mais > 1 MOIS
TNT BB	+	-	**+**
TNT BB/maman	**>4**	O	<4
IgM BB	+	-	-
PCR BB	+	-	-
CAT	Rx/PL/bio **PENI G 10-14j 150.000U/kg/j**	**RIEN**	**1 IM Extencilline 50.000 U/kg 1 fois**

Management

Subsequent evaluation by the pediatrician

Clinical + serological testing / 3 months for 2 years

VDRL negative at M6, TPHA negative at M12

Management of *Treponema* exposure at delivery

All staff with skin/mucosal contact with the infant < 24 hrs of treatment

Penicillin 2.4M U 1 dose + serological follow-up

Breastfeeding allowed (except in case of skin lesion on the nipple)