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CHU de Martinique

CIC Antilles Guyane

REACTing

Complications neurologiques associées au virus Zika, une étude prospective dans la Caraïbe.

Benoît Rozé, Julien Cuziat, Fatiha Najioullah, Jean-Louis Fergé, Kossivi Apetse, Yannick Brouste, Raymond Césaire, Isabelle Leparc-Goffart, Ruddy Valentino, Aïssatou Signate, André Cabié.

Neutropisme du virus Zika, et manifestations neurologiques associées.

TRANSACTIONS OF THE ROYAL SOCIETY OF
TROPICAL MEDICINE AND HYGIENE.
Vol. 46. No. 5 September, 1952.

ZIKA VIRUS

(II). PATHOGENICITY AND PHYSICAL PROPERTIES

BY

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mice of 2 weeks of age and over can rarely be infected by the intraperitoneal route. Mice younger than 2 weeks are highly susceptible to intraperitoneal inoculation of the virus.

(3) Zika virus is highly neurotropic in mice and no virus has been recovered from tissues other than the brains of infected mice.

(4) Cotton-rats, guineapigs and rabbits show no clinical signs of infection after intracerebral inoculation of late passage mouse brain virus.

(5) Monkeys develop an inapparent infection after subcutaneous inoculation with mouse brain virus. After intracerebral inoculation one of five monkeys showed a mild pyrexia, the others showed no signs of infection. Viraemia during the first week after inoculation has been found in all monkeys tested and antibody has been demonstrated by the 14th day after inoculation.

(6) Of 99 human sera tested, 6 (6.1 per cent.) have neutralized more than

Premières descriptions en Polynésie française

- Syndrome de Guillain-Barré (SGB)
- 42 cas (0,24 cas/1000) pendant la durée de l'épidémie (10/2013 - 04/2014).

	viral RNA	IgM	IgG	Zika IgM/IgG					Neutralising antibodies
				+/+	+/–	–/+	–/–	Zika virus positive	
Guillain-Barré syndrome (N=42*)	0 (0)	39 (93%)	29 (69%)	27	12	2	1	41 (98%)	42 (100%)
Control group 1 (N=98)	ND	17 (17%)	25 (26%)	7	10	18	63	35 (36%)	54 (56%)

	Guillain-Barré syndrome*(n=42)	Control group 1 (n=98)	OR (95% CI)
Zika virus IgM and/or IgG positivity	41 (98%)	35 (36%)	59·7 (10·4–+∞)
Positive Zika virus seroneutralisation	42 (100%)	54 (56%)	34·1 (5·8–+∞)

Dick GWA. Zika virus. II. Pathogenicity and physical properties. Trans. R. Soc. Trop. Med. Hyg. 1952; 46:521–534.

Cao-Lormeau V-M. Guillain-Barré Syndrome outbreak associated with Zika virus infection in French Polynesia: a case-control study. *Lancet*. 2016.

Infections au virus Zika en Martinique, 2016

36 500 Consultations « Zika »

41 « neuro-Zika »

27 SGB

14 non-SGB

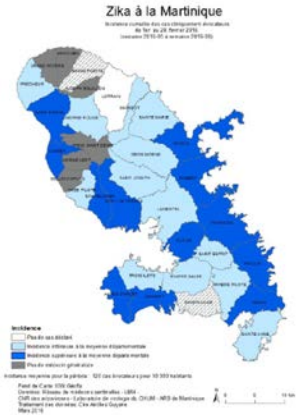
17 RT-PCR ZIKV

10 sérologies ZIKV

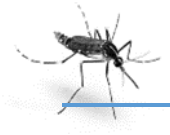
4 « SGB-like »

5 encéphalites

5 autres



Profils virologiques pour 27 SGB, Martinique, 2016



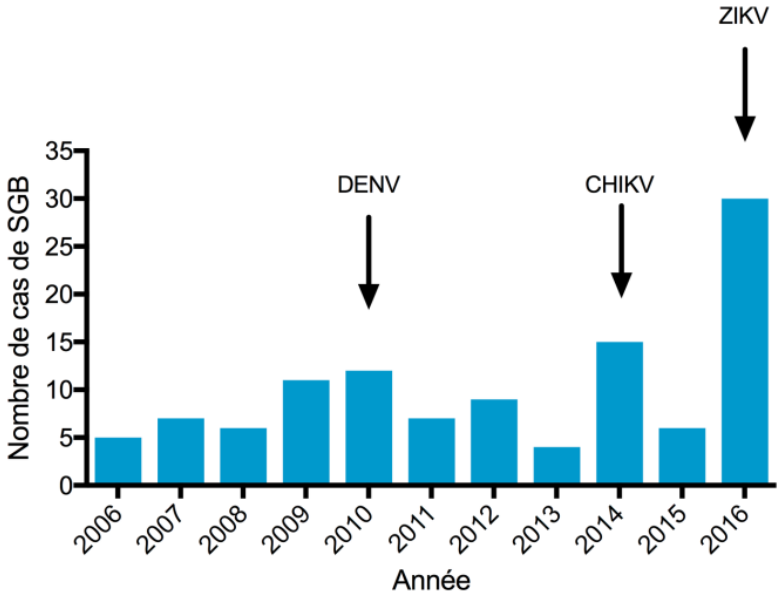
	ZIKV IgM								
	Negative			Flavivirus			ZIKV		
	ZIKV IgG positive	ZIKV IgG negative	ND	ZIKVIgG positive	ZIKV IgG negative	ND	ZIKV IgG positive	ZIKV IgG negative	ND
RT-PCR ZIKV on urine									
Negative	4	3	0	2	0	0	-	-	4
Positive	-	-	4	-	-	3	-	-	10

ZIKV IgM : immunoglobulines M anti Zika virus, RT-PCR ZIKV : Zika virus Reverse transcriptase polymerase chain reaction, ZIKV IgG : immunoglobulines G anti Zika virus detectées par séroneutralisations, ND : non déterminé.

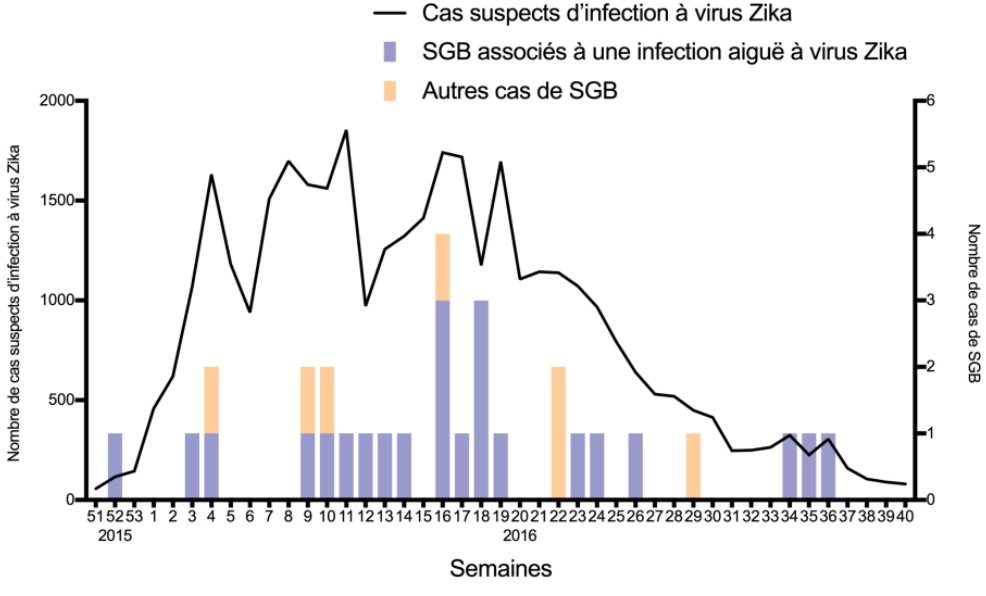
Negative : IgM anti Zika virus et IgM anti dengue virus negatives.
Flavivirus : IgM anti Zika virus et IgM anti dengue virus positives.
ZIKV : IgM anti Zika virus positives et IgM anti dengue virus negatives.

Incidence du SGB en Martinique, 380 000 habitants

De 2006 à 2016



En 2016



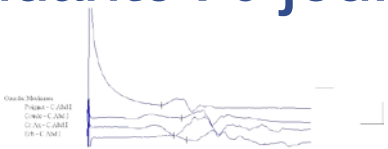
Rozé *et al*. Guillain-Barré Syndrome Associated with Zika Virus Infection in Martinique in 2016: A Prospective Study. CID 2017. *in press*

Epidémiologie des SGB liés au Zika (n = 27)

- 65 % d'hommes
- Age médian 61 ans (56 – 71)
- Syndrome arboviral 70%, délai 6 jours (1,5 – 6,5).

Clinique des SGB liés au Zika

- A l'admission : dysphagie 70%, alitement 83 %.
- Hospitalisation en soins intensifs 61 %, médiane 20 jours (7 – 23).
- Ventilation invasive 43,5 %, deux décès.
- Phase ascendante : 9 jours, Plateau : 8 jours.
- AIDP 100 %.



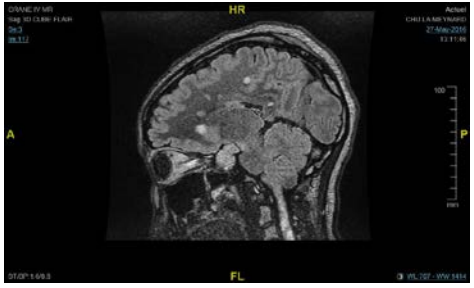
- Durée médiane d'hospitalisation : 60 jours (36 – 83).

Epidémiologie des neuro-Zika non SGB (n = 14)

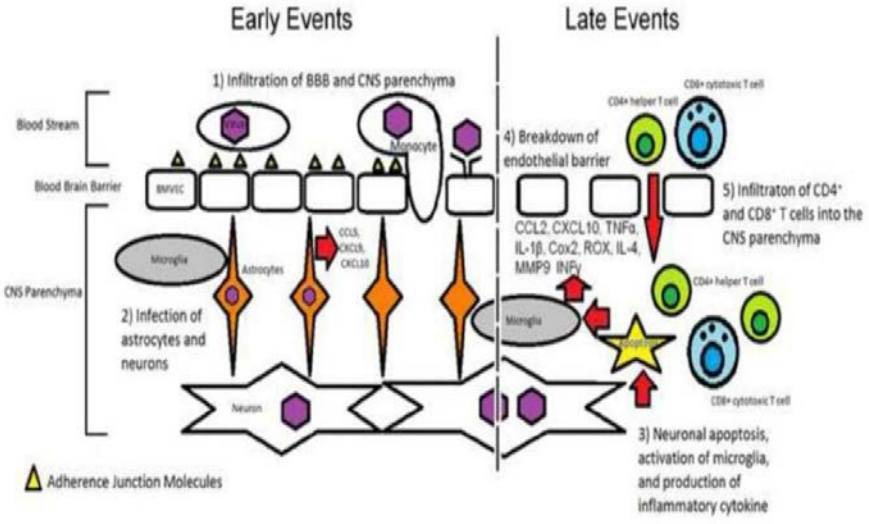
- Sex ratio 2,25
- Age médian 52 ans (41 – 67)
- Syndrome arboviral 80 %
- Délai médian 2,4 jours (1 – 2).

Clinique des neuro-Zika non SGB

- 4 « SGB-like » :
  - 3 diplégies faciales + paresthésies
  - 1 syndrome de Bickerstaff
- 5 encéphalites aiguës
- 4 complications auto-immunes : neuromyélite optique, sclérose en plaques, myasthénie
- 1 AVC ischémique malin



Hypothèses physiopathologiques



Review

Zika virus and autoimmunity: From microcephaly to Guillain-Barré syndrome, and beyond

Guglielmo Lucchese [a], Darja Kanduc [b,*]

Table 5 (*continued*)

Peptide(s)[1]	Human proteins[2] and relation to (de)myelination processes and axonal neuropathologies[3]
CYSQL, GSQHS, **SLTCLA**	IL7RA. Interleukin-7 receptor subunit alpha. Multiple sclerosis
IPKSL, KNPKE, LVDRE, VFIYN	KIF1B. Kinesin-like protein KIF1B (Klp). Axonal neuropathy.
GQVVT	LMNA. Prelamin-A/C. Axonal neuropathy.
LEGDL, GKRKR, ARRAL	LMNB1. Lamin-B1 precursor. Axonal neuropathy.
VLDLH	LRSM1. E3 ubiquitin-protein ligase LRSAM1. Axonal neuropathy.
HSDLG, RRLLG, TEVEV	MAG. Myelin-associated glycoprotein precursor

Lucchese et Kanduc, Autoimmunity Reviews 2016.

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#zika
#FightAedes
#ZikaVirus
www.paho.org/zikavirus