

Study on the Genotypes Isolated from 2009-2017 in the Paediatric Hospital Complex of Kingasani in R.D.C

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Abstract

Three sites sentinels function since August 2009 in RDC, the Paediatric Hospital of Kalembe-lembe and the Paediatric Hospital complex of Kingasani II for the pool of Kinshasa and the hospital Jason de Sendwe with Lubumbashi.

The total of sample of the saddles collected by the Paediatric Hospital complex of Kingasani II is 1 615 cases including 891 positive cases with the rotavirus with a prevalence 55%.

What concludes that to safeguard the losses in human lives of our children from 0 to 59 months, it estnécessaire to introduce the vaccine into our country.

Keywords: Study; Genotypes; Insulated; Diarrhoea; Rotavirus; Paediatric; Prévalence; Infection

Introduction

The infection with rotavirus is the principal cause of diseases diarrheal acute and serious, causing approximately 527 000 deaths per annum (WHO 2009) including 85% in the countries with low income as defined by the bank world (PATEL, *et al.* 2009).

IN 2003, the number of infectious episodes diarrheal causes annually by the rota virus in the world was regards with more than 111 million the cases; whose objective defined in our study is to determine the circulating genotypes and to introduce the vaccine.

Materials and Methods

Materials

Biological material

We used as biological material: Saddles of the children suffering from gastroenteric during at least 7 days.

Reagents

- The reagents used throughout our study are as follows:
- Kit Rotavirus prospective customer;
- Viral QIAamp RNA mini kit;
- Plug AVL;
- Plug AW1;
- Plug AW2.

Other materials and consumable

- Micropipettes (1000 µl; 100µl),
- Vortex,
- Hood,
- Washing bottle,
- Readers microplaques,
- Ends,

- Ethanol (96-100%),
- Bleach 10%,
- Tubes Eppendorf 1, 5 ml Rnase free;
- Centrifuge for Eppendorf tube;
- Pipette 10 ml;
- Pipettes of 10-200µl and 100-1000µl;
- To portoir Eppendorf tubes;
- Gloves;
- Vat with disinfecting;
- Bag dustbin;
- Wadding soaked with disinfecting;
- Centrifugal machine for tubes of 1,5 ml;
- Apron;
- Thermocyclor;
- Plastic pots with lid;
- Cryotubes;
- Cryobox;
- Paper essuie all;
- Ball point pens;
- Indelible markers;
- Books registers;
- Chiches of investigation;
- Chains ELISA;
- Spatulas out of wooden;
- Mask.

Method

We employed an exploratory study based on the direct maintenance semi-structured with the parents of the patient children in a certain paediatric service of our country by identifying the elements hereafter:

- Vomiting;
- Fever;
- Diarrhoea of the Community of origin.

The target of the monitoring for us within the framework of this study is all the sick children from 0 to 59 months victims of the acute diarrhoea requiring a hospitalization.

Result and Discussion

GENOTYPE VP7 (G)	Number	%
G1	160	39%
G2	113	28%
G3	21	5%
G4	5	1%
G6	23	6%
G8	7	2%
G9	4	1%
G12	14	3%
G MIXED	13	3%
G NOT TYPE	47	12%
TOTAL	407	100%

Table 1

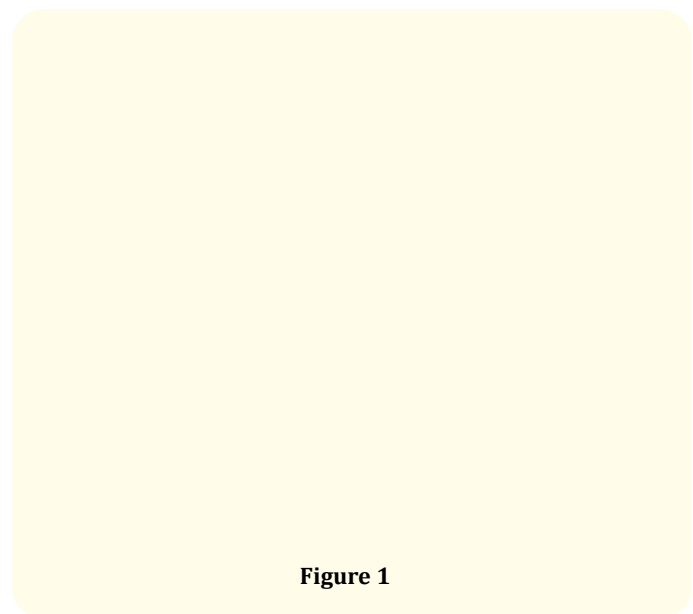


Figure 1

Genotypes G identified expresses that among the G genotypes, the most commonly found are G1 (39%), G2 (28%) and G6 (6%).

GENOTYPE VP4 (P)	Number	%
P[4]	25	6%
P[6]	187	46%
P[8]	179	44%
P[MIXED]	13	3%
P NOT TYPE	3	1%
TOTAL	407	100%

Table 2

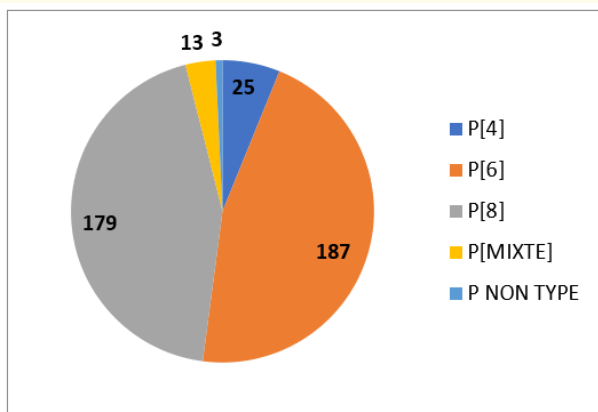


Figure 2

For genotypes P the table gives the following information: P genotypes, the most common are P [6] (46%), P [8] (44%) and P [4] (6%).

G and P	Number	%
G1 P[6]	43	14%
G1 P[8]	108	35%
G1 P[4]	4	1%
G2 P[6]	74	24%
G2 P[8]	17	6%
G2 P[4]	19	6%
G3 P[4]	2	1%
G3 P[6]	14	5%
G3 P[8]	3	1%
G4 P[6]	1	0%
G6 P[6]	20	7%

Table 3

G and P	Number	%
G6 P[8]	2	1%
G9 P[8]	3	1%
G4 P[8]	3	1%
G4 P[4]	1	0%
G8 P[6]	5	2%
G8 P[8]	1	0%
G8 P[4]	1	0%
G12 P[4]	1	0%
G12 P[6]	2	1%
G12 P[8]	10	3%
MIXED	26	9%
NOT TYPE	47	15%
TOTAL	305	100%

Table 4

To finish the genotype G and P combined, the combinations more prevail are: G1P[8](35%), G2P[6](24%) and G1P[6](14%).

The positive cases of the gastro entérites acute severe are most frequent in the children whose age varies from 0 to 24 months and the experiment shows us that the seasonal determination of the disease is carried out during the dry season (i.e. MAY, JUNE and JULY) which one records much case of the diarrhoeas with Rotavirus because it is at this time that the climate is cold in Kinshasa.

Strategy of support uses

The resources and give them monitoring of this operational unit are managed by a coordinator on the level of the sites sentinel.

The laboratory of the site works in close cooperation with Biomedical the National laboratory of Research (INRB), the génotypage, the séquençage and the examinations of quality controls rest by the Regional laboratory of Reference, the WHO of the Mendusa university, Limpopo and the National laboratory of CDC Atlanta.

The PCR for the génotypage is carried out at the national laboratory of reference (LNR) of the INRB Kinshasa to (RDC), the regional laboratory of reference (RRL) of the university of Mendusa and to the national laboratory of Reference (CRL) of CDC Atlanta to the USA [1-9].

Conclusion

Our study proves that 55% of case of the children hospitalize for the severe diarrhoea are those whose age varies between 0 and 59 months that is allotted to an infection with rotavirus.

The results obtained in our study show and that it is necessary to introduce the vaccine into our country.

It is legitimate to wait until the effectiveness of vaccine anti rota virus in terms of protection is comparable with that of the infection does not protect from the reinfection, but protects nourrissons against the diseases severe with rota virus.

Thanks

I thank the program widened for vaccination (PEV) to have placed at our disposal this study which made it possible in RDC to introduce into the monitoring system a new Anti-Rotavirus vaccine the 30/10/2019.

I thank WHO Afro, under office countries and the CDC to have to bring to the site sentinel the necessary means which allowed the correct operation of site.

I thank the Clelia Sister for his open spirit.

Conflict of Interest

Our structure is with character social, works in the commune more populated Town of Kinshasa. We were obstinate fronts several difficulties, amongst other things financial which allowed rupture stocks (intra-reagent and other consumable) and misses motivation for the personnel of the site thus made, we are with the research of the financial partners for the continuer of the activities.

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