Criteria of hospitalization in dengue epidemy
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Why :   to decrease number of patients seen in emergency
         to decrease number of hospitalized patients

How :   based on retrospective study done in 2003

         Definition of gravity criteria

Evaluation of professional practive based on retrospective study done in 2009

Aims of the study

  clinical and biological criteria of severe infection on admission

Methods

  retrospective study between 12.01.2003 and 23.08.2003

  inclusion :   in-patients older 15y
                  laboratory-confirmed diagnosis (PCR or IgM)

          2 groups   severe cases
                           benign cases

Results

n = 170   severe   n= 24 (14%)
          benign   n=146 (86%)

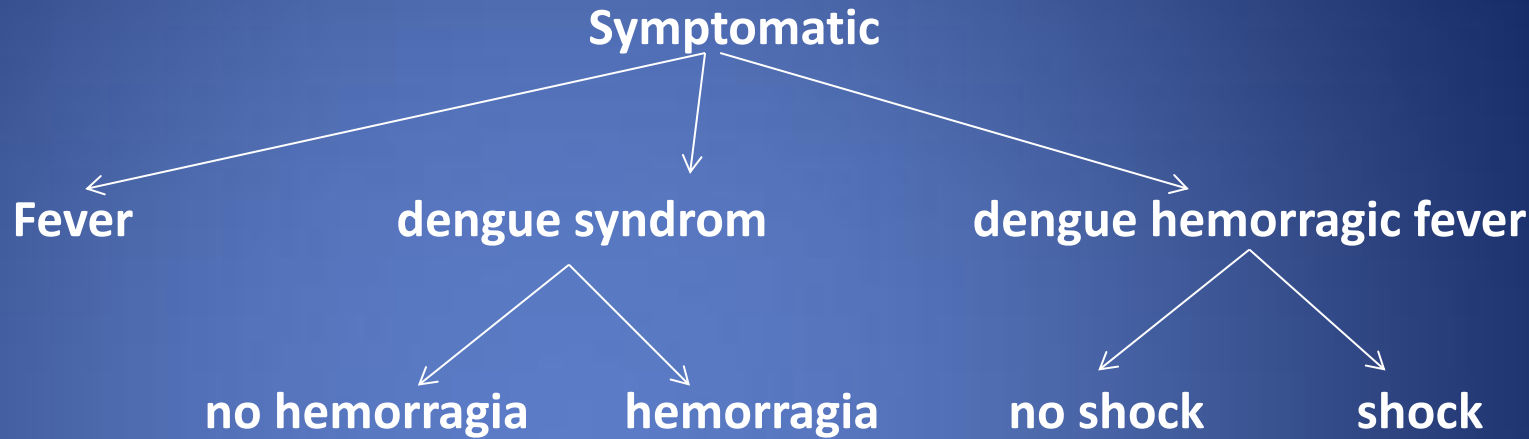   sex ratio :   1,32
          mean age :   48 y
          mean duration hospitalization :   8,3 d

          positive PCR   33/55
          positive IgM   136/170

Severe cases   death : 10
                                sex ratio : 1
                                mean age : 47,5 y

OMS classification

Asymptomatic

Symptomatic

Fever   **dengue syndrom**   **dengue hemorragic fever**

no hemorragia   **hemorragia**   **no shock**   **shock**

severe cases : concordance 4/24
benign cases : concordance 128/145

Comparative study

Epidemiologic factor

	Benign	severe	p
Mean age	47,3	47,5	NS
sex	84m/61f	11m/13f	NS
Medical past	87 (11%)	11 (42%)	NS
Period for the first consultation	3,8 d	4,9 d	NS
Duration of hospitalization	7,9 d	10,9 d	0,04

Clinical signs on admission

	Benign n=146	Severe n=24	p
Hypotension <80 mmHg	1 (.7%)	9 (37.5%)	<0.0001
Exantema	10 (6.8%)	1 (4.2%)	NS
Hemorragia	47 (32.2%)	15 (62%)	0.004
Neurological complications	14 (9.6%)	6 (25%)	0.004
Pulmonary complications	27 (18.5%)	5 (20.8%)	NS
Abdominal forms	22 (15.1%)	5 (20.8%)	NS
Other complications	26 (17.8%)	10 (41.7%)	NS

Biological signs

	Benign	Severe	p
Neutrophiles/mm3	3,9	7	0.007
Lymphocytes/mm3	1,37	1,35	NS
Platelets/mm3	116 200	61 400	0.003
Hb g/dl	13.75	13.8	NS
Ht %	41.99	42.09	NS
Creatinin umol/l	96.8	174.8	0.001
Protides g/l	66.9	53.6	<0.001
Albumine g/l	33.8	28.3	0.01
ASAT UI/l	115	547	0.001
ALAT UI/l	89	226	0.03
Total bilirubin	18.3	40.6	0.03
Free bilirubin	7.2	22	0.005
CPK UI/l	608	3042	0.04
LDH UI/l	878	2516	NS
CRP g/l	24.7	76.4	<0.001
Amylase UI/l	69	539	<0.001
PT%	89.5	70	<0.001

Correlation study

Association 3 first factors   **eliminates 94% of benign cases**
includes 84% of severe cases

	PPV	NPV
Platelets < 45 000	66.7%	75.7%
Free bilirubin > 18	30.4%	96.7%
Amylase > 220	30.4%	98%
Creatinin > 140	50%	92.3%

1/4 criteria for severe case, no for benign   VPN 96.1%
3/4 criteria for severe case, < 2 for benign   VPP 100%

Hospitalization criteria for dengue

Clinical signs

Hemorragia

plasmatic leak   Hypotension

pleural, pericarditis effusion or ascitis

Comorbidities

bad socio-economic conditions

Digestive intolerance

Deshydratation

pseudo abdominal surgical forms

Encephalitic form

septic shock

paracetamol poisoning

Biological criteria

Increase Ht > 20%

platelets < 10 000

Creatinin > 140

CRP > 40

Amylase x 3 N

Outbreak 2009 during 3 months

248 pts with positive results   **95 hospitalized   38.3%**
14 severe cases   5.6% (1 death)

Emergency department   188 (75%)   38% hospitalized

	Hospitalized	Non hospitalized
Spontaneous consultation	47	141
Generalist	34	12
SOS	14	0

Reason for consultation	Hospitalized	Non hospitalized
Dengue suspected	47	126
Dengue non suspected	48	25
Unknown	0	2

Issue   - spontaneous consultation in emergency department   75%

> ➢ **Lack of generalist**
> ➢ **Protect campaign**

-**Loss of information in the files**

> ➢ **only 20% note the onset of the fever**
> ➢ **few note on previous dengue**

Positive point   - follow-up to recommendations
**   - close monitoring from generalists**

WHAT do we have to do for the next outbreak?

➢ **Keep the same criteria**
➢**standard questionnaire to evaluate severity**
➢ **proximity consultings**
➢ **educational programm for population**