CHIKV in the young: our clinical experience

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Objective

- to better understand the clinical profile of CHIKV

- to better define clinical manifestations in infants and young children < age 5

- First confirmed/probable CHIKV cases in TnT: 14th July 2014

The Paediatric Emergency Dept (PED), EWMSC

- One of 2 dedicated PEDs in the English speaking Caribbean
- Sees approx. 60,000 paediatric attendances/yr (aged 0 -16 yrs)
- Facilities include a 7-bed critical bay , 10-bed observation unit
- Education and training, postgraduate programmes

Preparing for CHIKV

- Held a series of staff sensitisation lectures/ training
- Developed patient information leaflets
- Developed clinical management protocol guidelines
- PED surge management plan
- Liaised with Trinidad Public Health Laboratory
- Collaboration with CARPHA – communication with hospital staff
- **1st confirmed paediatric case: 1st September 2014**

Clinical manifestations of CHIKV

Typical Acute Symptoms (CDC):

Fever (76-100%) –up to 1 wk

Polyarthralgias (71-100%)

Headache (17-74%)

Myalgias (46-72%)

Back pain (34-50%)

Nausea (50-69%)

Vomiting (4-59%)

Polyarthritis (13-32%)

Rash (28-77%) 2-5 days after fever onset

Conjunctivitis (3-56%)

What about infants?

(Valamparampil et al, IJP Feb 2009): 56 infants <1yr confirmed CHIKV positive on antibody testing.

- Fever > 101^0F (100%)
- Seizures* (39%)
- Irritability (26.8%)
- Lethargy, poor feeding (21.4%)
- Oedema of lower extremities (19.6%)
- Diarrhoea
- Acrocyanosis
- Skin manifestations: erythema, peeling, maculopapular rash, vesiculobullous lesions

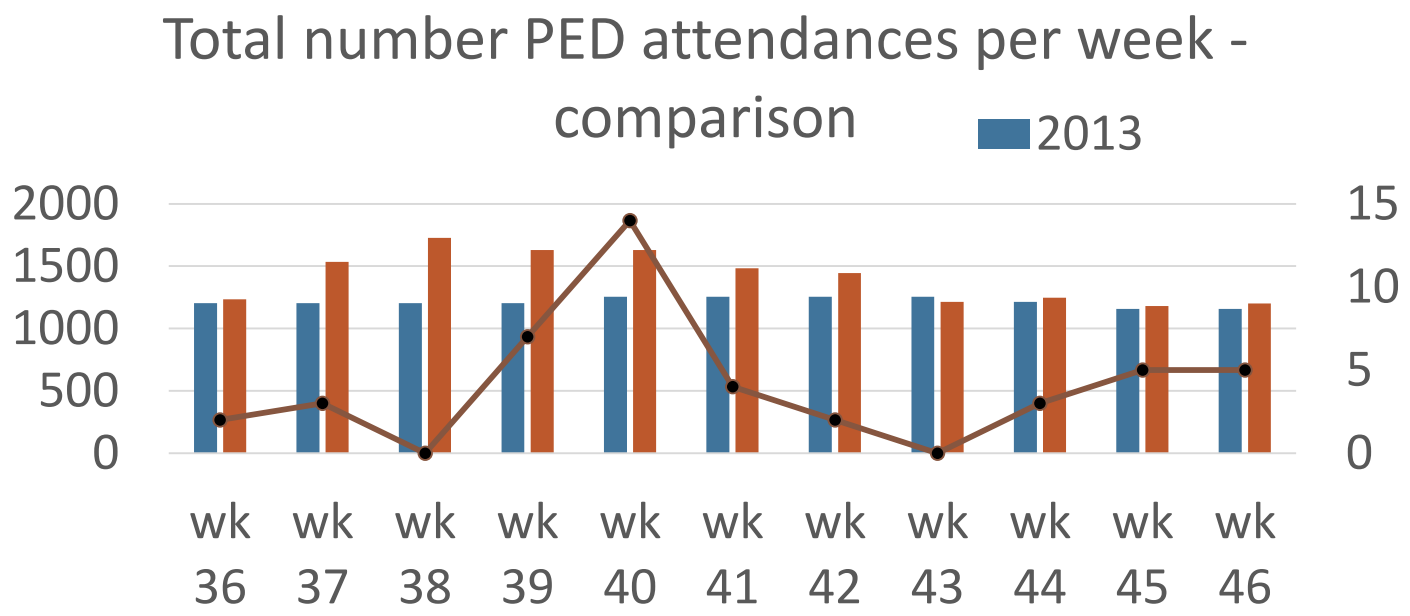
Our experience

- 45 children aged 0-5yrs presenting to PED 1/9/14 – 13/11/14 acutely unwell

- Retrospective review

- CHIKV positive on RT-PCR

Impact of CHIKV on PED attendances



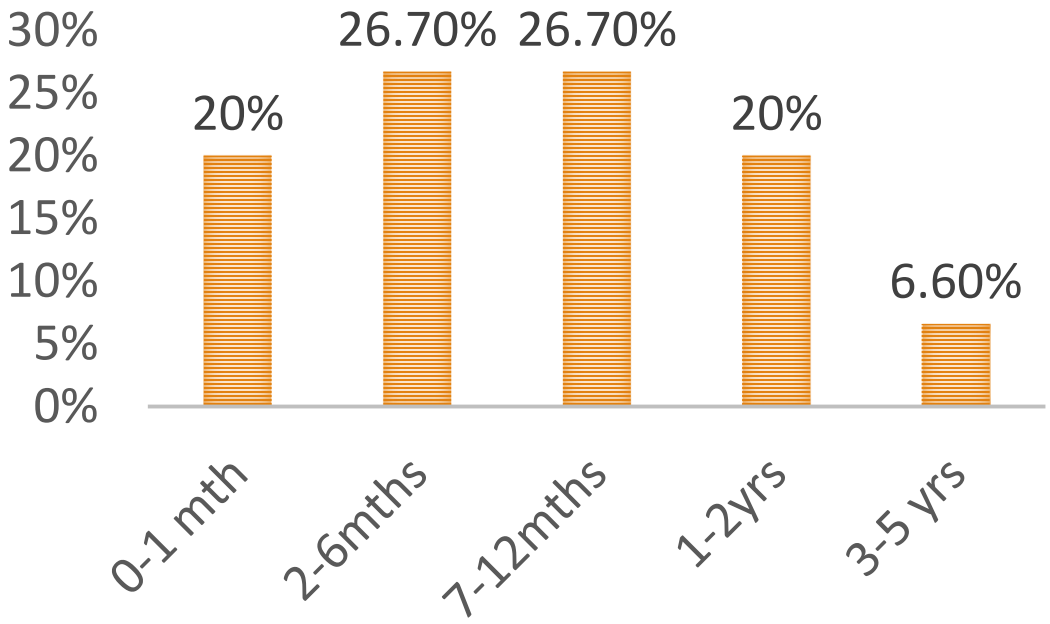
Patient demographics

- Sex: 51% Female, 49% Male

- Average duration of illness: 1.4 days (range 0-8days)

- Age 0-1 yr: 73.4%

Our patient demographics - age



Clinical features

1. Fever >38 degrees Celsius (97.8%)
2. Pain (57.8%), limb swelling (4.4%)
3. Rash (42.2%) - mainly maculopapular
4. Seizures (17.8%)
5. Poor handling (17.8%)
6. Gastrointestinal symptoms- vomiting/diarrhoea (15.6%)
7. Respiratory symptoms – rhinorrhea, cough, tachypnoea (15.6%)
8. Coagulopathy (2.2%)

Clinical case 1

- 9 mth old female, previously well
- Presented on day 1 illness with a history of fever, irritability, nasal congestion
- Screaming on being held
- Ill contacts in neighbourhood
- On presentation: febrile (39.5 degrees Celsius), ill looking
- Full sepsis screen, empirical antibiotics, iv fluids and saline nebulisers
- Completed 5 days antibiotics, cultures all negative. Well on discharge.
- **CHIKV PCR positive**

Clinical case 2

- 2 yr old male, previously well
- Presented on day 2 of illness with fever, ‘body pain’, rigors, poor feeding, rash
- Had 2 febrile seizures within 12 hours, each 5 minute duration, full recovery
- No ill contacts at home
- On presentation: febrile (temp 39 degrees Celsius), maculopapular rash
- Fever responded to paracetamol, tolerated oral fluids
- Admitted overnight, discharged with outpatient follow-up plan
- **CHIKV PCR positive**

Clinical case 3

- 11 day old male infant, uneventful pregnancy and delivery

- Presented with 2 day history of fever, nasal congestion, poor feeding, rash

- On presentation: febrile (temp 38.5 degrees Celsius), tachypnoeic and tachycardic

- Full sepsis screen, started on 1st line antibiotics and acyclovir

- Increasing respiratory distress on Day 2 – intubated and transferred to Intensive Care

- Complicated course – required inotropes and management of coagulopathy

- Ventilated for 14 days in Paediatric Intensive Care

- Discharged after 21 day inpatient stay, feeding well.

- CHIKV PCR positive

Lessons learned

- Need for clinical suspicion
- Importance of supportive care, training and education
- Negotiating issues with testing – timeliness of results
- Surge management planning, increased bed pressures
- Benefits of collaboration

Summary

- CHIK-V a relatively new phenomenon in the Caribbean
- Heterogeneous presentation
- Different spectrum of illness in young children and infants
- Close monitoring and supportive care in younger infants
- Need for further research and collaboration
- Think CHIK!

Thank you

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