



# Session concluding remarks

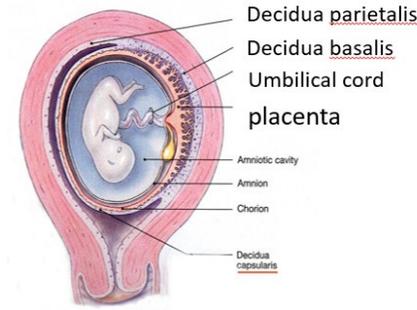
Claire Thorne

University College London Great Ormond Street Institute of Child Health

Mexico City, 21 July 2019



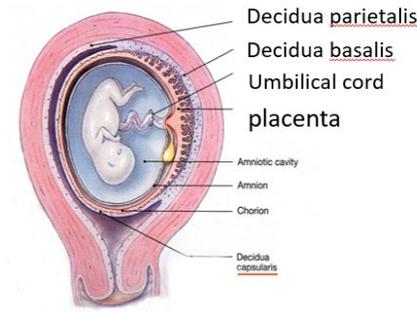
# Placental studies



- Studies helping to shed light on potential mechanisms of adverse pregnancy outcomes associated with HIV/ART with respect to placental morphology and immunology
- **Clive Gray** - using data from the **Gugulethu cohort** of pregnant women on ART (EFV-based) and HIV-negative women
  - No observed significant effect of ART initiation (pre-conception or AN start) on placental pathology
  - Increased adverse birth outcomes with lower basal plate weight and displaced cord
  - Immunology in PWLH has profound impact on the decidua – even if VL is suppressed
  - CHEU are born with different immune profiles which likely reflect events in the placenta
  - Treg cells constituents are markedly different in cord blood than in placenta



# Placental studies



- **Lena Serghides**
- In the **AAPH cohort/biobank in Toronto** (pregnant women with/without HIV)
  - Lower placental weight and marginal cord insertion in women with HIV (not associated with ART)
  - Inefficient placentas and overworked placentas associated with SGA in PWLH
  - Observations leading to investigation of the decidua with the finding that LPV/r impacts negatively on decidualization (in women and mice models)
  - The “fertile ground” of the decidua that “supports the tree” of the placenta is disrupted by LPV/r
  - Placenta compensates by spreading out – hence PIs associated with greater deviation from circular shape

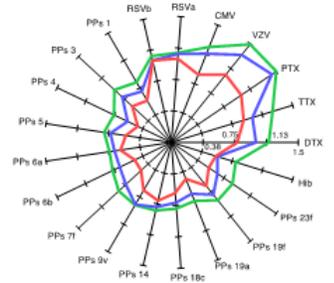


# Altered immunity and risk of infections in CHEU



Arnaud Marchant MAD1 consortium

- Maternal immunity critically shapes infant immunity
- Brussels cohort – IHEU had 2 fold increased risk of hospitalisation for infections in early life vs IHU, with start of ART in pregnancy vs pre-pregnancy a significant risk factor
  - More immune activation in mothers AND in newborns where AN ART start
  - Maternal HIV infection leads to reduced transfer of maternal antibodies across placenta, with lowest transfer ratios in infants whose mothers started ART in pregnancy
- Starting ART in pregnancy seems to decrease the glycosylation of antibodies and leads to reduced active transport of antibodies across the placenta





SHINE trial



CIPHER  
PAEDIATRIC HIV MATTERS

Andy Prendergast and Ceri Evans

1. There is higher mortality in CHEU, mostly in first 6 weeks of life before EID
  - How much is due to ongoing HIV transmission, and how much is excess mortality in CHEU?
2. There are growth and development disparities in CHEU vs CHU: 51% vs 34% stunted at 18 months of age, and neurodevelopmental scores 0.1-0.2 standard deviations lower
3. We should move beyond alive and HIV free as our outcome of success in preventing VT, and move to '**alive HIV free and thriving**'
4. CHEU appear to be responsive to interventions:
  - Improved nutrition reduced stunting from 50% to 40% (but clearly still lots of stunting)
  - Combined nutrition-WASH intervention had large and consistent effects on early child development, but needs confirming in other settings



# Providing care to CHEU in South Africa and Zambia



## Priscilla Mulenga and Jane Mutanga – Zambia

- Innovative ways of tracking CHEU population in Zambia
- Developing simple tools / enhancing existing tools that primary health care staff can use to identify CHEU with problems and refer to hospital
- Electronic medical records – keeping track of CHEU’s care
  - Livingstone Hospital - shift to 100% electronic reports at every point of care, incorporating numerous registers (ANC register, PMTCT register, CHEU register etc)
  - Smart Care cards for mothers and babies
  - Linkage of maternal and infant data via unique and lined identifiers
  - Not without challenges but tremendous opportunities





# Providing care to CHEU in South Africa and Zambia



## Lesley Bamford & Ute Feucht – South Africa

- Contribution of CHEU to stunting rates and school readiness rates in South Africa is uncertain – more research is needed (e.g. on risk factors)
- The Side by Side national campaign - working to ensure that all children under 5 receive the nurturing care needed to reach their full potential
  - Defining a mother and baby first 1000 days package (continuum of care)
  - General benefits for CHEU – work in progress re defining enhanced package of care and how to deliver it
- **Challenges:**
  - Inability to track CHEU children (no unique identifier for newborns or mother/baby linkage currently)
  - Overstretched health system – particularly regarding neurodevelopmental care
  - Stigma around “labelling” and appropriate messaging



# Integrating CHEU into the nurturing care framework



## Martina Penazzato

- Opportunities to position CHEU in broader health system and to benefit from early childhood development services
- Converging agendas of nurturing care framework alongside life course approach to care of CHEU / children with HIV (WHO, UNICEF, country level)
- Tracking CHEU in order to deliver appropriate and diverse interventions
  - from health and nutrition to security/safety and responsive caregiving and early learning
- What practical tools are already available for delivering interventions?
  - Every contact as an opportunity – but how to expand to those most vulnerable
  - What services and interventions? Much is already there – “nudges”
  - “Remember, strengthen, add”





- Fantastic work being conducted in diverse but complementary areas, helping us to develop understanding of potential causal pathways for the susceptibility of CHEU to adverse outcomes and how health risks in CHEU might be mitigated
- Many questions remain to be addressed in order to support the shift from surviving to thriving for CHEU
- This workshop - unique opportunity for this multi-disciplinary group with an interest in the well-being of CHEU to come together annually to share and discuss findings and to drive future research



Thank you to the sponsors CIPHER, through the continuous support of ViiV Healthcare, CIPHER Founding Sponsor, WHO HIV Department, Massachusetts General Hospital for Children and the US-based Pediatric HIV/AIDS Cohort Study (PHACS)



Enormous thanks to the presenters for their time and generosity



## Workshop resources



- Keep an eye on the Workshop webpage where the slides and recordings of today's programme will be posted
- Open access - feel free to share this resource with colleagues not able to join today

<https://www.iasociety.org/CIPHER>



- Please all stay for lunch
- After lunch - the optional afternoon session:

**Session 3: Optional session - Harmonization and Collaboration for scientific advancement**

**Chairperson: Amy Slogrove (Stellenbosch University)**

14:00-14:30	Harmonizing CHEU Exposure and Outcome Data – The INFORM Project	Kate Powis (Massachusetts General Hospital for Children)
14:30-15:00	The DECIPHER Project – Towards consensus on HIV and ARV exposure definitions	Barbara Burmen (University of Cape Town)
15:00-15:30	Discussion and next steps	

- Strongly encourage everyone, but especially those currently conducting studies or planning studies including children or adolescents who are HIV exposed and uninfected to stay and contribute



# 6<sup>th</sup> Workshop on Children & Adolescents HIV Exposed & Uninfected



5 July 2020 – AIDS 2020  
San Francisco & Oakland, California  
United States

We very much look forward to  
seeing all of you there!

