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O221 Optimising paediatric treatment for long term survival. Adult survivors of congenital HIV infection – what problems will they have?

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During 10 years of HAART potency, efficacy and adherence have markedly improved, and morbidity and mortality from paediatric HIV has fallen dramatically in cohorts with access to treatment. Short-term side-effects of HAART in children mirrored those seen in adults. Assessment of long-term side-effects and treatment outcomes will depend on following this congenitally infected cohort into adult life, as has been undertaken with other congenital infections (e.g. rubella) or abnormalities (e.g. congenital heart disease). Long-term follow up of the first adult survivor cohorts in resource rich setting will help to inform the management of much larger cohorts in resource-poor settings. Neuro-cognitive function, behaviour and learning is affected in a significant proportion of children and adolescents with HIV, and long-term follow up is required to monitor ongoing viral effects on the CNS. Growth, puberty, bones and kidneys: current survivors are shorter than average and delayed sexual maturation is recognised; abnormalities of bone and renal metabolism are common, both HIV and drugs may contribute. Fertility and teratogenicity: both drugs and/or HIV may have long-term effects on gonadal function. Cardiovascular health and lipids: children with HIV have very low HDL blood levels which improve on HAART, but some on HAART have high LDL levels, which will be more deleterious in the long-term? Malignancy in adult life may be the consequence of drug exposure, immune deficiency, or co-infections (HPV, HBV etc). When to start HAART: interim data from the CHER trial has confirmed that all infants diagnosed with HIV should be started urgently on HAART to reduce the risk of death or disease progression in the first year of life. Whether this treatment needs to be continued life long or not, is still under investigation in the trial. For older children diagnosed with HIV, when to start HAART remains untested by randomised controlled trial and 2008 guidelines, as for adults, have revised the CD4 starting thresholds upwards. The complex balance here is between the long-term "viral-toxicity" of untreated HIV with a currently acceptable CD4 count, versus the long-term "drug-toxicity" of HAART exposure with full HIV suppression during growth and development. It is unlikely that a simple answer will found as to which more deleterious in the long-term, for the cumulative noxious effects of HIV or drugs over time in the organ systems (e.g. brain, bones, gonads etc) will be different. In the short term, this question has been addressed in PENTA 11 (paediatric structured treatment interruption trial – data to be presented at HIV9); long-term follow up of these trial patients and national cohorts will be very important in helping to elucidate this question of competing long-term drug and/or HIV effects.