EFFECTIVENESS AND SAFETY OF LPV/R PELLETS-BASED ART IN CHILDREN: 48-WEEK ANALYSIS

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Background

- Despite the WHO recommendation to use LPV/r-based treatment for all children <3years, current formulations do not meet the needs of children and caregivers.
- A palatable, heat-stable, easy-to-administer pellet formulation of LPV/r has received tentative USFDA approval for use in infants and young children. However, there is a lack of clinical data on its effectiveness and safety in routine care.

Study Objective

The LIVING study aimed to test the effectiveness, safety, pharmacokinetics, and acceptability of LPV/r pellets with ABC/3TC (or AZT/3TC) dispersible tablets under field conditions in HIV infected infants and young children who cannot swallow tablets.

Methods

Study Design

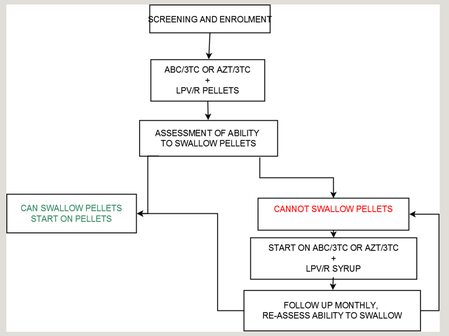
- Single arm phase IIIb implementation study
- open-label
- prospective
- non-randomized
- non-comparative
- multicenter, multi-country

Inclusion criteria

HIV infected children

- ARV naïve, or already on first line liquid lopinavir based treatment, or failing first line, weight ≥3 and <25 kg at the time of enrolment (age is not an inclusion criterion)
- NNRTI based therapy
- Unable to swallow tablets

- Dosing pf LPV/t pellets followed WHO weight bands
- Observation of pellets administration performed at clinic



Results

(1) PATIENT DISPOSITION

Enrolled (n = 610)
ARV experienced 552 (NNRTI = 39; NNRTI+LPV/r = 513); ARV naïve = 58

Visit Month 3 (n = 467)

Visit Month 6 (n = 377)

Visit Month 12 (n = 220)

(2) BASELINE CHARACTERISTICS

- As of 31/07/17, 610 patients had been enrolled in Kenya and Uganda
- cohort retention at 48 weeks was **88.7%** (5 deaths).
- Baseline and WK 48 VL available in 220 children (49% female; 11% ART naïve, 84% switched from LPV/r and 5% from NVP based ART).
- Median age in months (IQR) was 20 (8-41) in ARV naïve, 47 (32-66) in LPV/r exposed and 50 (41-67) in NVP exposed.
- **Immunodeficiency, wasting, and stunting** were present in 70%, 50%, and 35% of naïve respectively, 33%, 17%, and 7.8% of LPV/r and in 40%, 20%, and 14.3% of NVP exposed.

(3) EVOLUTION OF VIRAL SUPPESSION STRATIFIED BY PRIOR TREATMENT EXPOSURE

HIV RNA VL (log_{10} copies/mL)	Patient type	N	Median	IQR	<1.7 (<50cp/ml)	<2.6 (<400 cp/ml)	<3(<1000 cp/ml)	>3(>1000cp/ml)	Data available
Enrollment	Naive	58	5.4	4.8 – 5.8	2 (3.8%)	5 (9.5%)	6 (11.4%)	47 (88.7%)	53
	NNRTI+LPV/r	514	2.2	1.6 – 3.9	142 (29.5%)	279 (57.9%)	306 (63.5%)	177 (36.5%)	483
	NNRTI	38	4.7	4.3 – 5.5	2 (5.3%)	4 (10.6%)	4 (10.6%)	33 (89.4%)	37
	Overall	610	2.5	1.7 – 4.6	**146 (25.5%)**	**288 (50.3%)**	**316 (55.2%)**	257 (44.8%)	573
WEEK 24	Naive	31	2	1.3 – 3.5	11 (35.5%)	18 (58.1%)	20 (64.6%)	11 (35.4%)	31
	NNRTI+LPV/r	322	1.7	1.3 – 2.5	160 (51.2%)	239 (76.6%)	250 (80.1%)	62 (19.9%)	312
	NNRTI	25	1.8	1.3 – 2.5	11 (45.8%)	18 (75%)	20 (83.3%)	4 (16.7%)	24
	Overall	378	1.7	1.3 – 2.6	**182 (49.6%)**	**275 (74.9%)**	**290 (79%)**	77 (21%)	367
WEEK 48	Naive	23	2.1	1.3 – 3.8	10 (43.5%)	15 (65.2%)	16 (69.6%)	7 (30.4%)	23
	NNRTI+LPV/r	188	1.6	1.3 – 2.1	105 (56.8%)	152 (82.1%)	157 (84.9%)	28 (15.1%)	185
	NNRTI	12	1.5	1.3 – 2.5	7 (58.3%)	9 (75%)	10 (83.3%)	2 (16.7%)	12
	Overall	223	1.6	1.3 – 2.3	**122 (55.4%)**	**176 (80.0%)**	**183 (83.2%)**	37 (16.8%)	220

(4) IMMUNODEFICIENCY, WASTING AND STUNTING were present **in** 6.4%, 9% and 5% of naïve children, 21.7%, 2% and 3% % of LPV/r exposed and 40%, 0%, and 14.3% of NVP exposed respectively at Wk48.

(5) ADVERSE EVENTS: 21 children had 67 AEs grade 3/4, 2 leading to treatment stoppage.

Conclusions

LPV/r pellets were well accepted with minimal safety concerns. Naïve patients, those failing NVP, as well as those switching from LPV/r liquid were well suppressed at week 48 and had recuperated immunologically and clinically.

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