



Third Joint Conference
of the
British HIV Association (BHIVA)
with the
British Association for Sexual Health and HIV (BASHH)

1–4 April 2014

Arena and Convention Centre · Liverpool

THIRD JOINT CONFERENCE
OF BHIVA AND BASHH 2014



Dr Kate Childs

King's College Hospital NHS Foundation Trust, London

Decrease in both IP-10 and 25(OH)D levels upon initiation of successful antiretroviral (cART) therapy in HIV/HCV co-infection

K. Childs, C. Taylor, M. Bruce, K. Agarwal, I. Carey
King's College Hospital Foundation Trust

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King's College Hospital

NHS Foundation Trust



HIV /Hepatitis C (HCV) co-infection is associated with poor clinical outcomes

Lower response rates to treatment with pegylated-interferon

Increased frequency and speed of progression to cirrhosis

Increased liver related mortality

IP-10 and 25(OH)D are both predictors of treatment response and fibrosis progression in HCV

IP-10

- Interferon inducible protein 10 (IP-10) is a chemokine secreted in response to interferon γ .

↑ IP-10 → ↑ fibrosis
↓ Treatment response

- Both HCV mono infected and HIV mono infected patients have elevated IP-10 levels, but the highest levels are seen in HIV/HCV co-infection.
- No study has assessed the impact of cART on IP-10 level in HIV/HCV.

25(OH)D

- Vitamin D is a modulator of the T-cell immune response.

↓ 25(OH)D → ↑ fibrosis
↓ Treatment response

- Vitamin D3 supplementation has been shown to increase SVR rates.

In vitro data suggest that Vitamin D and metabolites can suppress IP-10 production

Aims

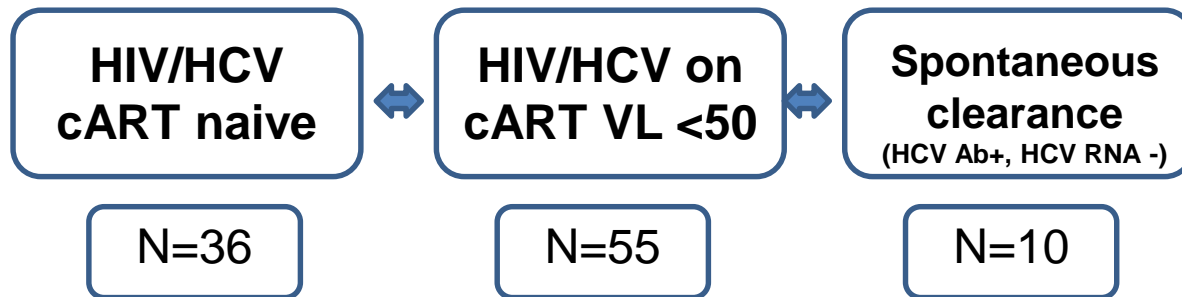
- To investigate the impact of successful cART on IP-10 levels in patients with HIV/HCV
- To compare IP-10 levels in HIV/HCV patients with those HIV positive individuals who have spontaneously cleared HCV.
- To investigate whether there is a correlation between IP-10 and 25(OH)D

Methods

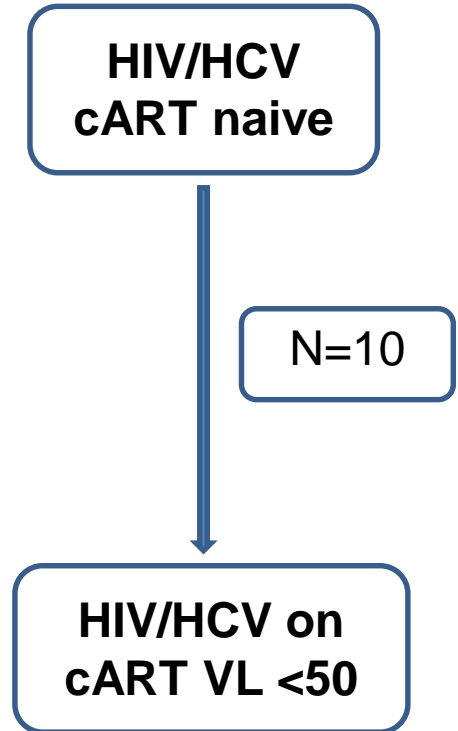
- Pilot study
- Patients were identified from the cohort of HIV/HCV patients attending King's College Hospital.
- The retrospective store of frozen plasma samples at the Institute of Liver Studies was searched to find samples from HIV/HCV patients before initiating cART and after initiating cART
- Normally distributed variables were compared with the students T-test. Non parametric variables were compared with Mann-Witney U.

STUDY DESIGN

Cross-sectional

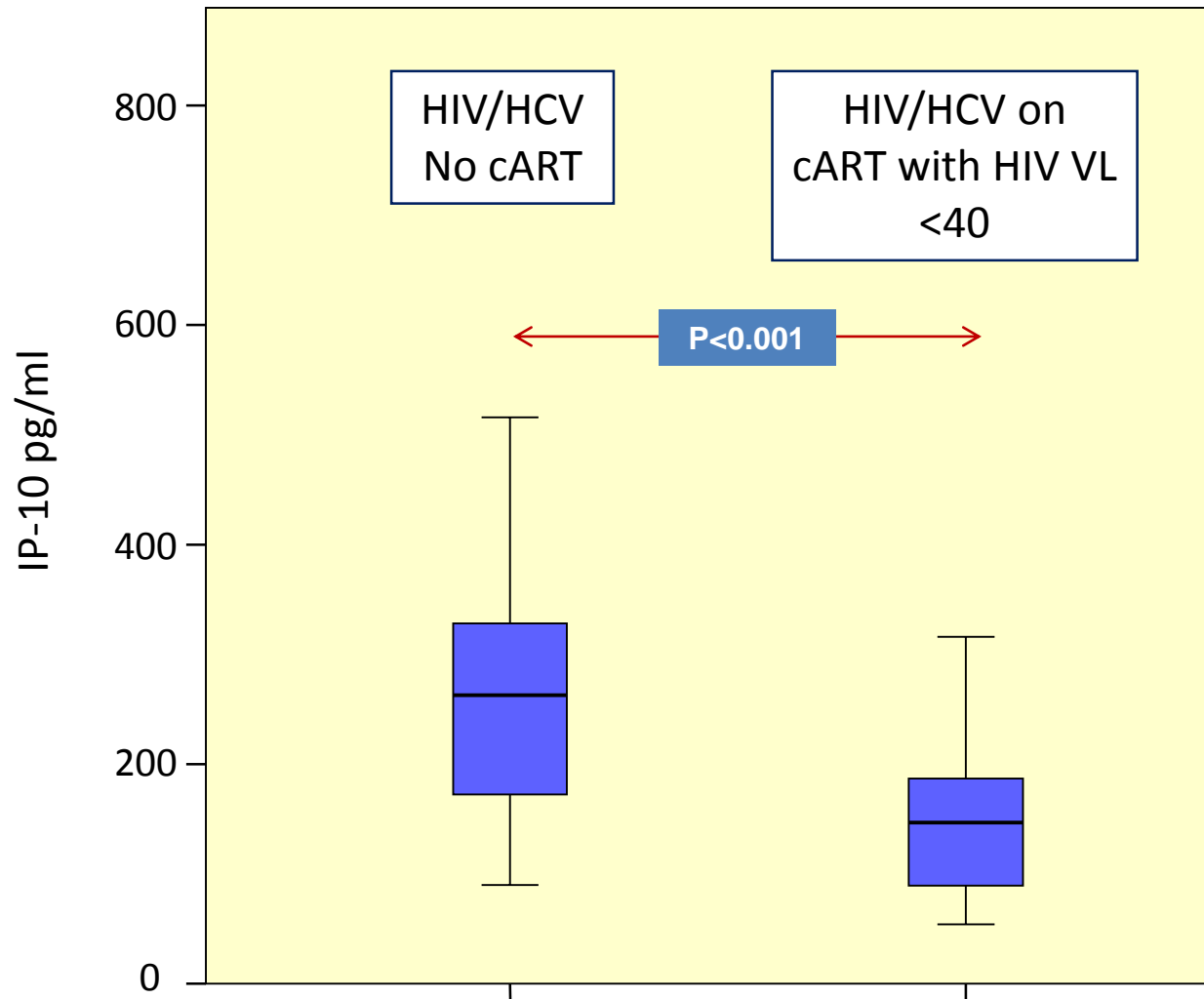


Prospective

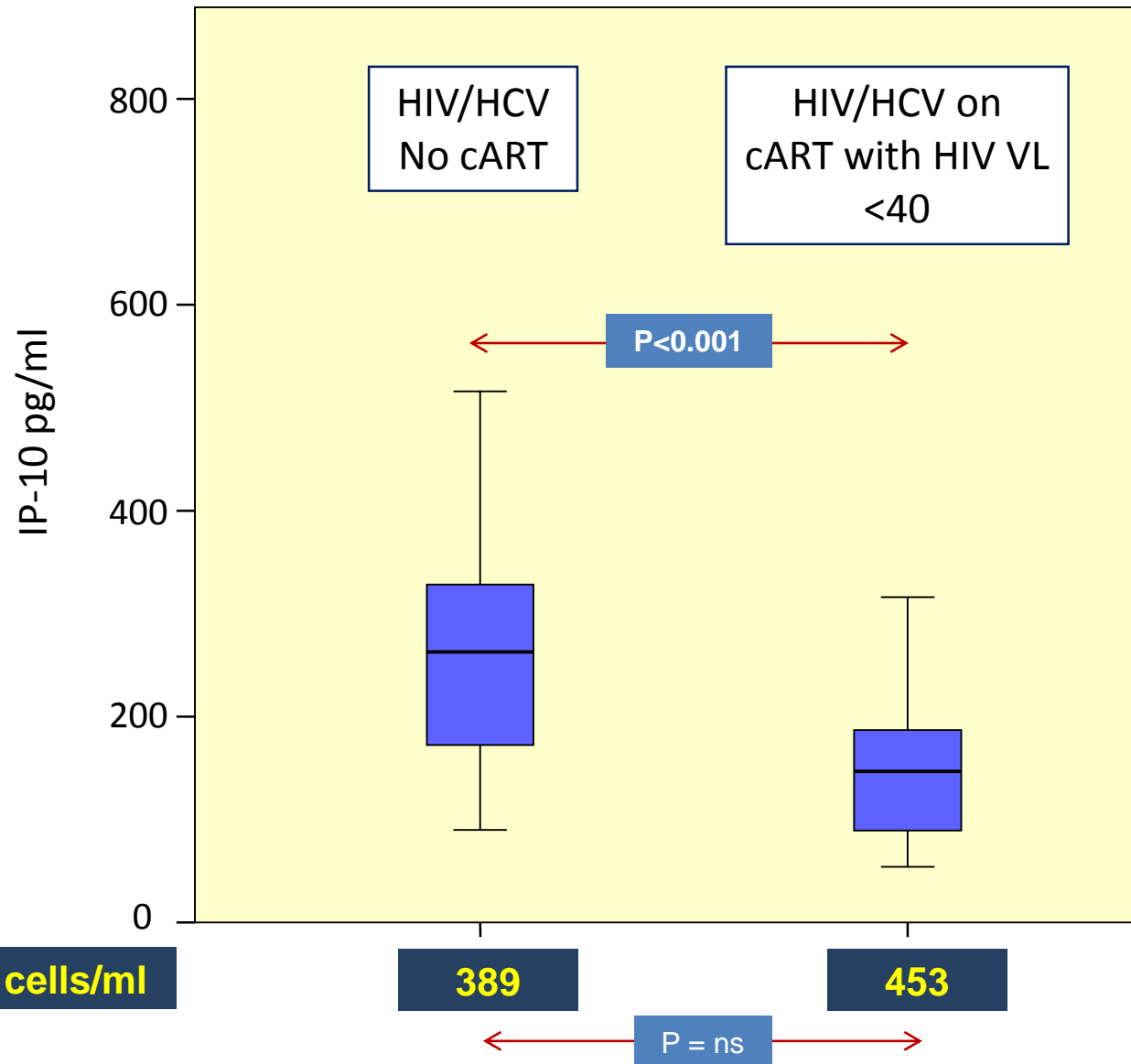


All samples were prior to any interferon treatment.
IP-10 was measured using the Quantikine ELISA IP-10 Immunoassay.

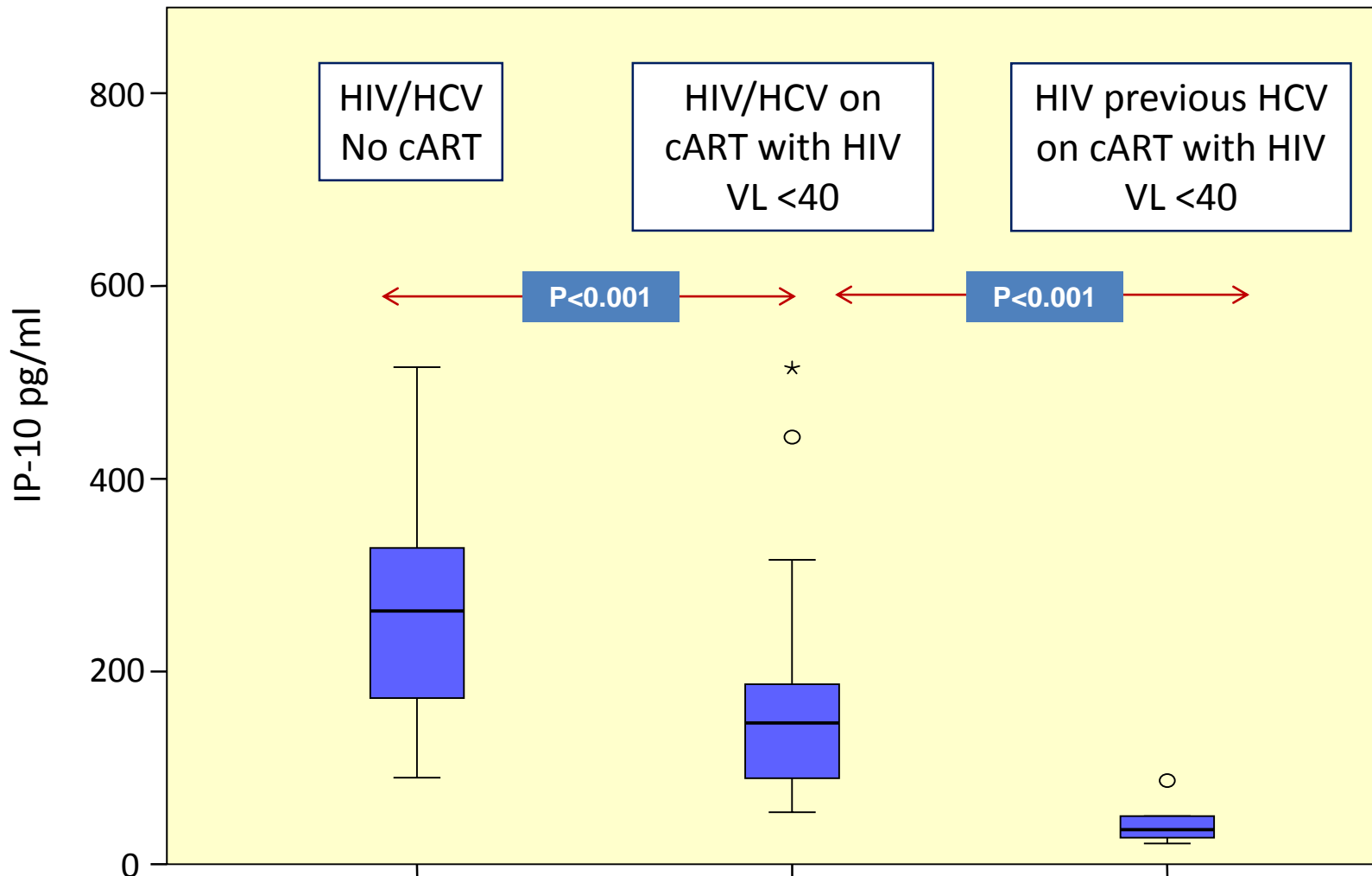
Median IP-10 was significantly lower in HIV/HCV patients on cART



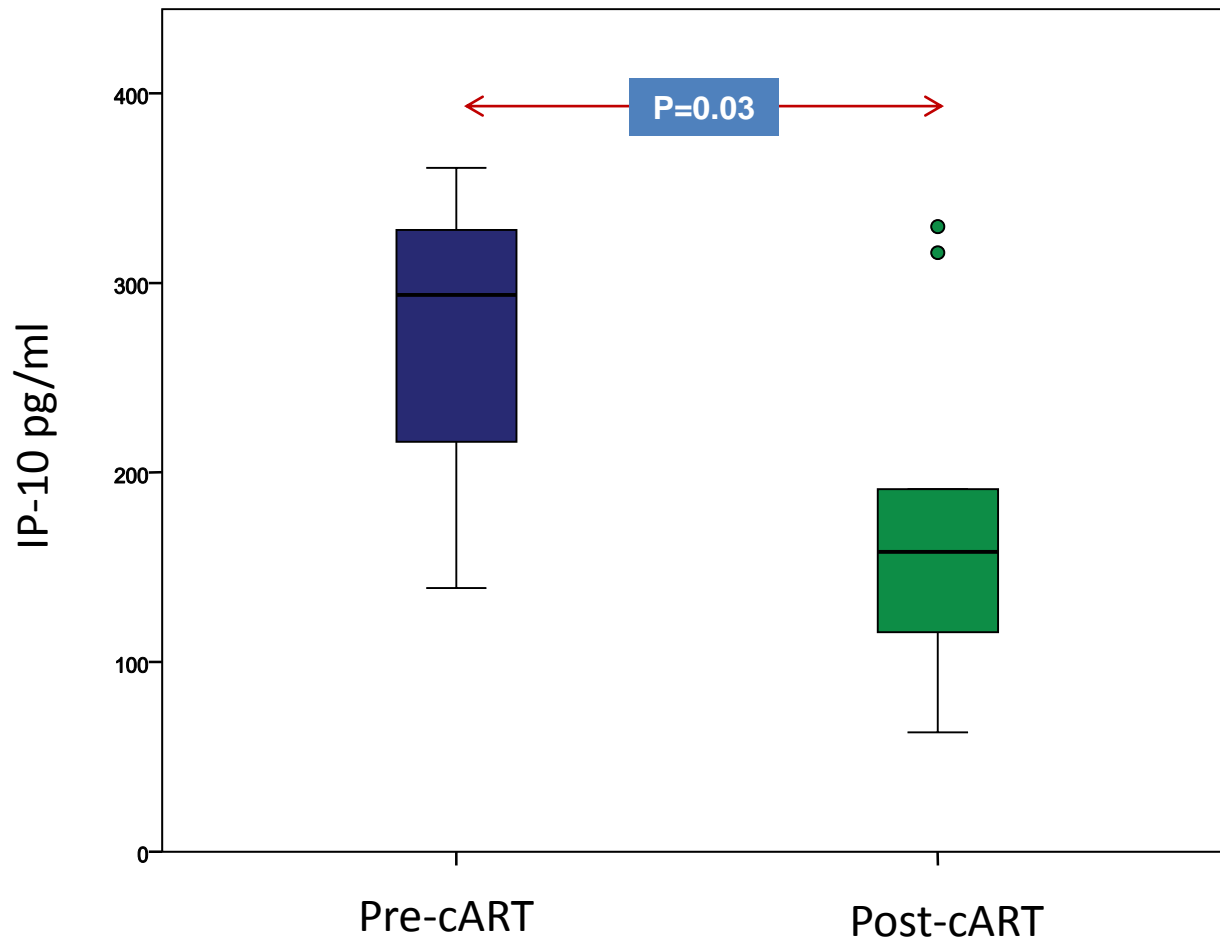
In this group CD4 count was not significantly different between groups



Lowest Median IP-10 levels were seen in patients who had spontaneously cleared HCV



Prospectively Median IP-10 decreased in HIV/HCV patients after initiating cART



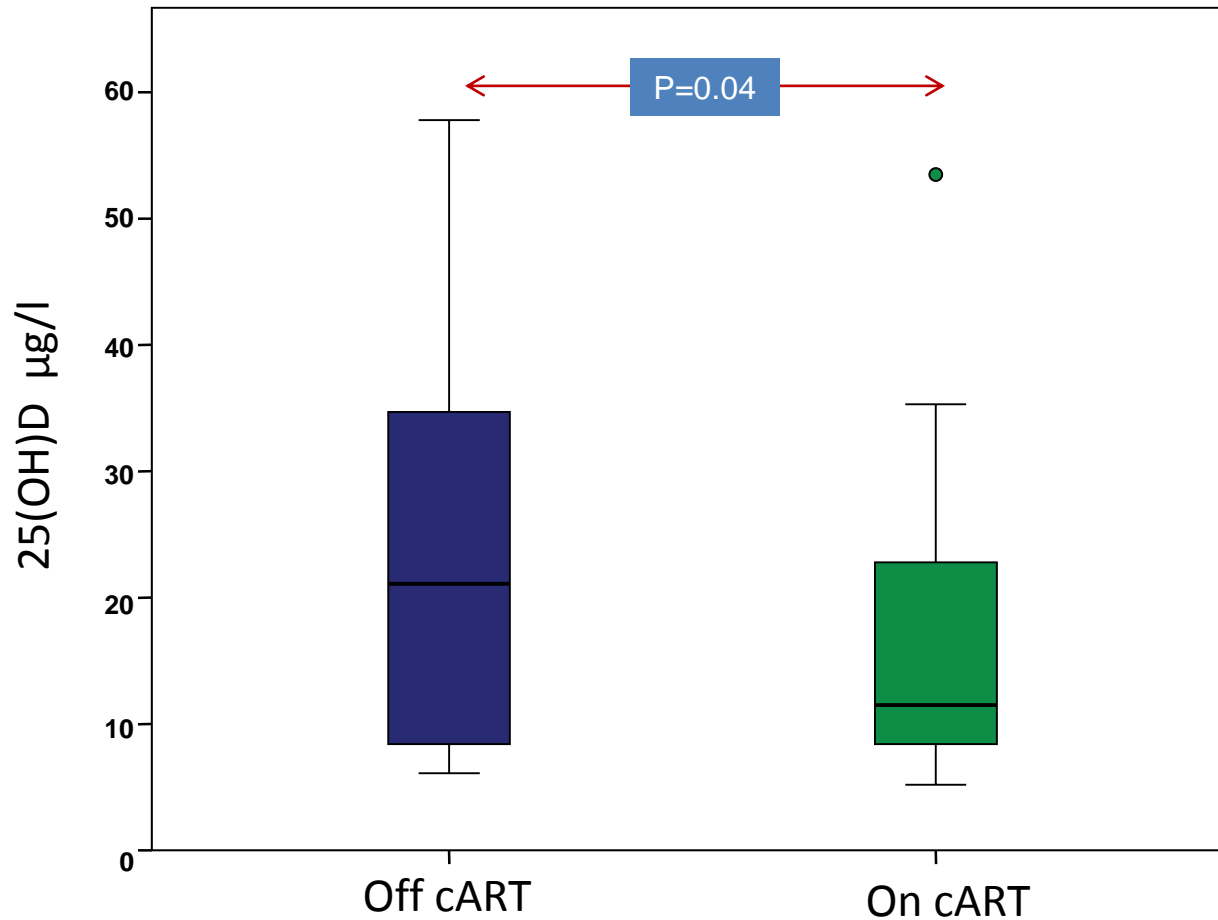
CD4 cells/ml

319

434

P= ns

Mean 25(OH)D was significantly lower in HIV/HCV patients on cART



Data analysis

- In univariate analysis, only cART status was associated with IP-10. HCV genotype, HCV RNA, CD4, age was not.
- 25(OH)D remained lower in those on cART after controlling for ethnicity and season
- There was no correlation between IP-10 and 25(OH)D even when patients stratified by cART status.

Discussion

- In a cross sectional comparison, IP-10 was lower in those on cART.
- Prospectively, IP-10 levels fell significantly in patients achieving undetectable viraemia with cART.
- There was no significant difference in CD4 indicating that this was not a profoundly immunosuppressed group.
- The lowest IP-10 levels were seen in the group who spontaneously cleared HCV. Is this a reflection of removal of HCV RNA or a function of the individuals immune response which permitted HCV clearance?

- 25(OH)D levels were lower in those on cART.
- This is supported by published data in HIV monoinfected patients.
- We did not detect any correlation between IP-10 and 25(OH)D.

Take-home messages

- IP-10 is known to be associated with increased liver fibrosis progression and poorer response to pegIFN
- We found that in patients with HIV/HCV, IP-10 was lower in those on cART despite no significant difference in CD4.
- This is further evidence to support the early initiation of cART in those with HIV/HCV, regardless of CD4, whether HCV treatment is planned or not.

Thank- you for your attention



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