Use of Video Observed Therapy (VOT) as an adherence support tool during pregnancy: A case report

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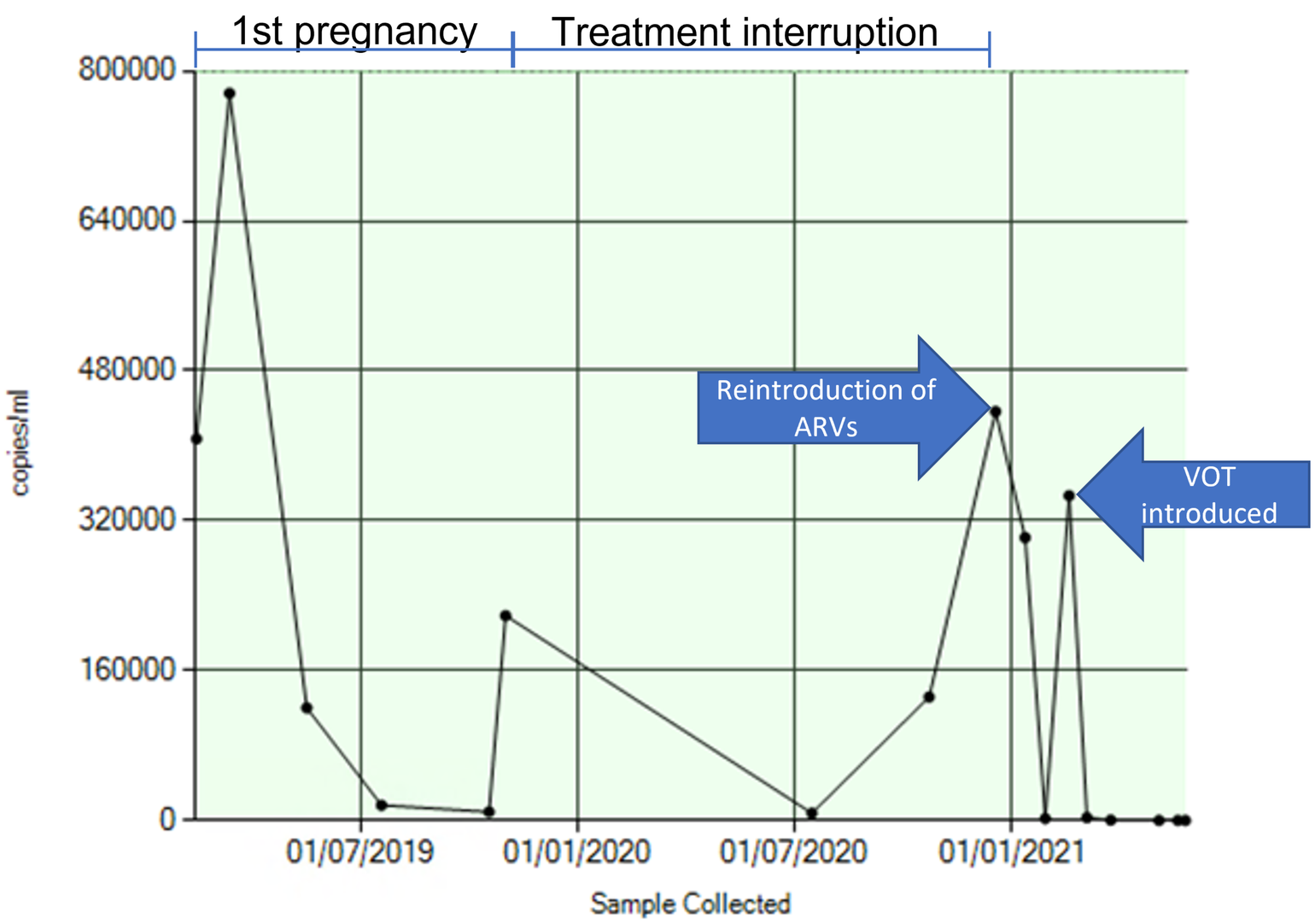
Background

- More than 20,000 vertically transmitted HIV cases were reported in the UK between 1998-2018. The risk of transmission is significantly higher in mothers with detectable viraemia at delivery[1].
- Directly Observed Therapy (DOT) is an effective intervention to improve adherence to ARVs and consequently reduce viral load and the risk of vertical transmission[2].
- Video observed therapy (VOT) is a promising alternative to DOT, infrequently employed in HIV services, but often used in outpatient treatment of Tuberculosis[3,4].
- VOT is cheaper, convenient and during lockdown a very efficient way to monitor ARV adherence.

Methods

- We describe the case of AV, a 30 year old Black African pregnant patient (G2P2), whose adherence significantly improved after the introduction of VOT during her second pregnancy, following a history of poor ARV adherence and engagement with care.
- VOT was implemented using WhatsApp, as agreed with the Trust Information Governance department and according to NHS England guidance, supported by NHS Digital[5]. We obtained patient's consent and agreed terms of use.
- Video messages were sent daily at agreed times, showing ARV self-administration. This was followed up by the HIV nurse every 48 hours with a SMS, acknowledging receipt. Unsent videos were chased on the same day.

Figure 1: Graph showing the HIV Viral Load of patient AV



Case History

- AV was diagnosed outside the UK, age 9, following vertical transmission. Her mother died of AIDS related conditions when she was a child. There was complex psychological issues surrounding her diagnosis and a history of poor engagement in care.
- During her first pregnancy, due to AV's poor adherence to ARV, a social care referral was made at 32 weeks gestation and the unborn child submitted to a child protection plan. AV had an elective C-section at term and remained in hospital with the baby to complete HIV PEP. Baby had a negative HIV serology result at 22 months of age.
- AV disengaged from care for a year and and re-presented at 5 weeks gestation during her second pregnancy. Viral load then was 436,516 copies/ml and CD4 counts 43 cells/mm3. ARVs once daily and PCP prophylaxis were reintroduced, but again she struggled with adherence.
- After 4 weeks on VOT her viral load became undetectable and remained so until delivery. She had an elective C-section at term, and chose to bottle feed. Baby received 2 weeks of AZT monotherapy supported by daily visits from community midwives and she was provided with formula milk. AV has remained engaged with VOT 4 months post-delivery, with an undetectable viral load, stating she feels "very supported".

Conclusion

- VOT is safe, cheap and easy to implement and can provide effective adherence support for ARV adherence.
- Information governance around its introduction is clear with guidance from NHS England, supported by NHS Digital – apps need to meet NHS end-to-end encryption standard of AES 256. WhatsApp can be used.
- Services should have a work device which can receive patient's messages and should be considered part of the patient's clinical notes.

References

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