Audit of retrospective Didansosine use, potential long term effects and follow up in children and young adults with perinatally acquired HIV attending a London Centre

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Introduction

Didanosine (DDI) is an older antiretroviral medication which is no longer commonly used due to adverse side effects caused by mitochondrial toxicity such as lipoatrophy and peripheral neuropathy, as well as abnormal liver enzymes, pancreatitis and non cirrhotic portal hypertension.

We did a retrospective audit to assess past DDI use and assess for any long term adverse effects in children and YP with vertically acquired HIV who were exposed to DDI in childhood.

Results

- As of October 2020, 76 patients were attending KCH with vertically transmitted infection.
- 17 patients (22%) had received DDI at some point in the past. This had now been discontinued in all patients, last in 2011.
- Median age was 24 years (range 18-27 years). 88% were of black African ethnicity, 53% male.
- Median duration of DDI use was 29 months (range 2-111 months).
- 14 patients had past abnormal AST results (range 56-954 IU/L) which had now resolved.
- Two patients had current abnormal AST levels and GGT levels, one with fatty changes on ultrasound scan. One further patient had isolated current GGT rise.
- Two patients had current low platelets, eleven patients had historical low platelets, often in the context of uncontrolled HIV.
- 5 patients had liver ultrasound, with worsening fatty changes in one patient. One had splenomegaly in the context of uncontrolled HIV infection. The rest were normal.
- One patient died at the age of 25 years from intrahepatic cholangiocarcinoma, with liver metastases on 09/04/2018, 21 years after receiving DDI for only two months; this patient's biochemistry was excluded from the analysis.

Methods

Retrospective case note review of all patients living with vertically acquired HIV attending King's College Hospital who attend the paediatric or adolescent service. ART records, current and past biochemistry, FBC results and liver ultrasound results were reviewed.

RECENT RESULTS	MEDIAN (RANGE)
GGT (IU/L)	22 (8-211)
AST (IU/L)	23 (13-51)
ALP (IU/L)	77 (45-101)
PLATELET 109/L	238 (94-302)
HISTORICAL ABNORMAL RESULTS	**MEDIAN (RANGE, NUMBER OF PATIENTS WITH ABNORMAL RESULTS)**
GGT abnormal peak (IU/L)	197 (105-823) 9/16 patients
AST abnormal peak (IU/L)	127 (56-954) 14/16 patients
ALP abnormal peak (IU/L)	527 (315-1261) 15/16 patients (Likely related to age/ growth phase)
Platelet abnormal nadir 109/L	70 (3-127) 11/16 patients

Conclusion

There has been an increasing awareness of complications related to past antiretroviral medication, such as non cirrhotic portal hypertension, in adults living with HIV who have had multiple drug exposures. This audit has enhanced awareness of this and highlighted high rates historical use of DDI amongst our cohort.

Whilst the vast majority of patients had historically abnormal biochemistry results, it was not within the scope of this audit to determine any chronological linkage to DDI use, and the majority of blood results have normalised. Reassuringly, no cases of non-cirrhotic portal hypertension were found. These patients will continue to be followed up on a long term basis to assess for longstanding changes.

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