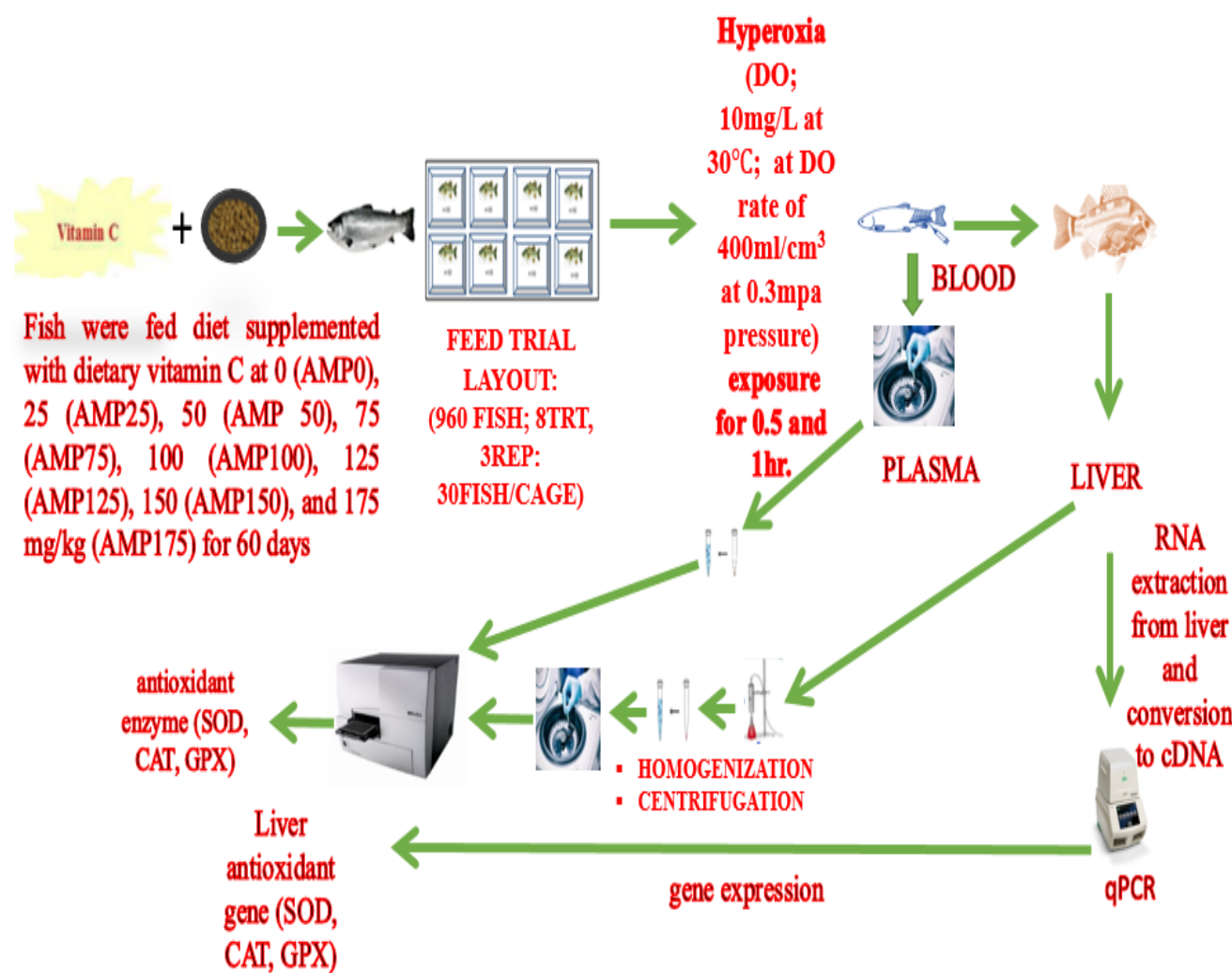


INTRODUCTION

- Dietary vitamin c can be categorized as a biochemical antioxidant and as an enzyme co-substrate (Akbari et al, 2016)
- a powerful antioxidant which protects low density lipoproteins from oxidation, reduces harmful oxidants in aquatic organism
- Dissolved oxygen (DO) is crucial for the metabolism and survival of fish (Zeng et al., 2016).
- Hyperoxia condition could occur in shallow waters which could influence hemostasis in fish.
- The study was aimed at investigating the interactive effects of dietary vitamin c and constant hyperoxia condition on antioxidant enzyme in largemouth bass.

MATERIALS AND METHODS



Data analysis

Data obtained were subjected to two-way ANOVA, where significant treatment means were separated with Tukey's test using IBM SPSS Statistics; version 24.0 and graph pad prism version 5.

RESULTS AND DISCUSSION

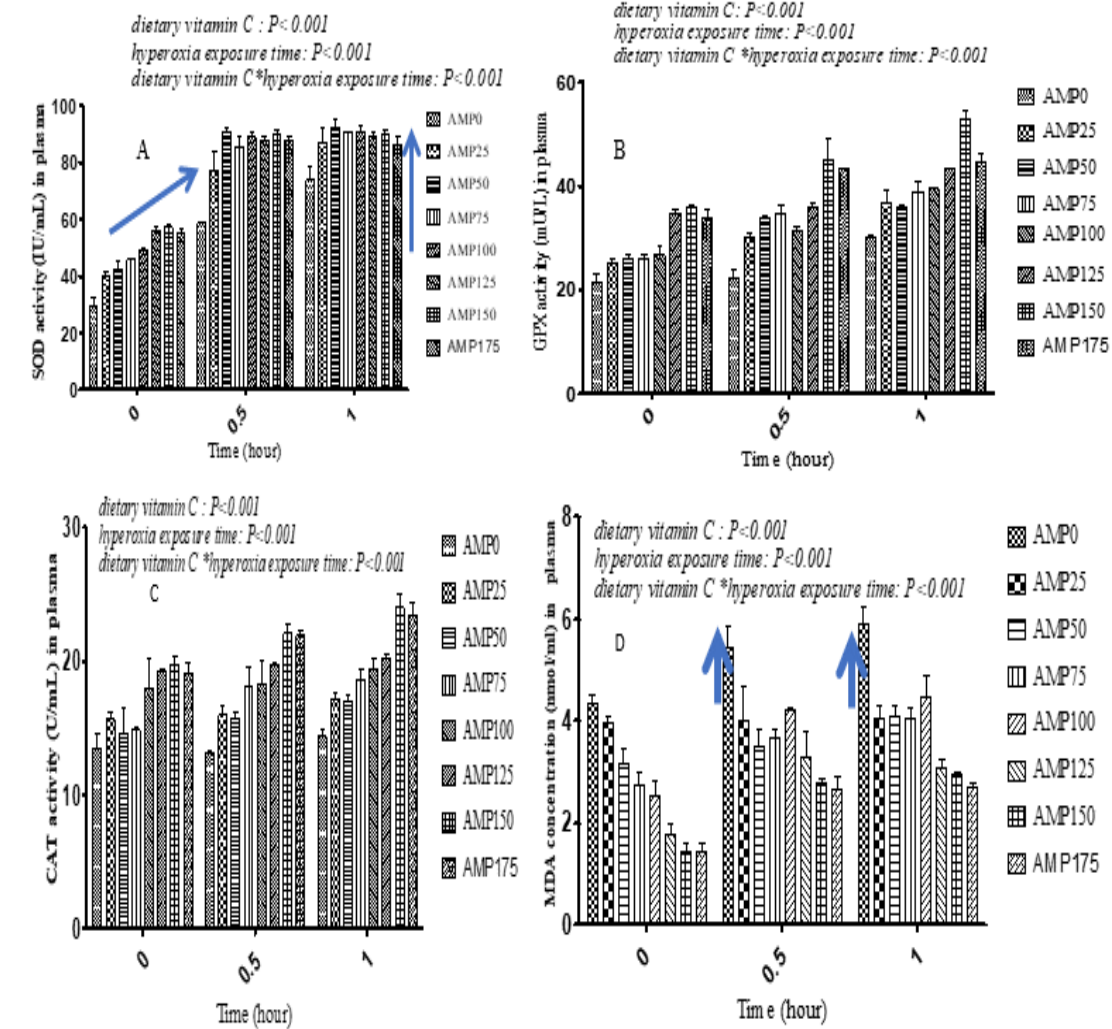


Fig 1. Plasma Antioxidant activity and MDA level

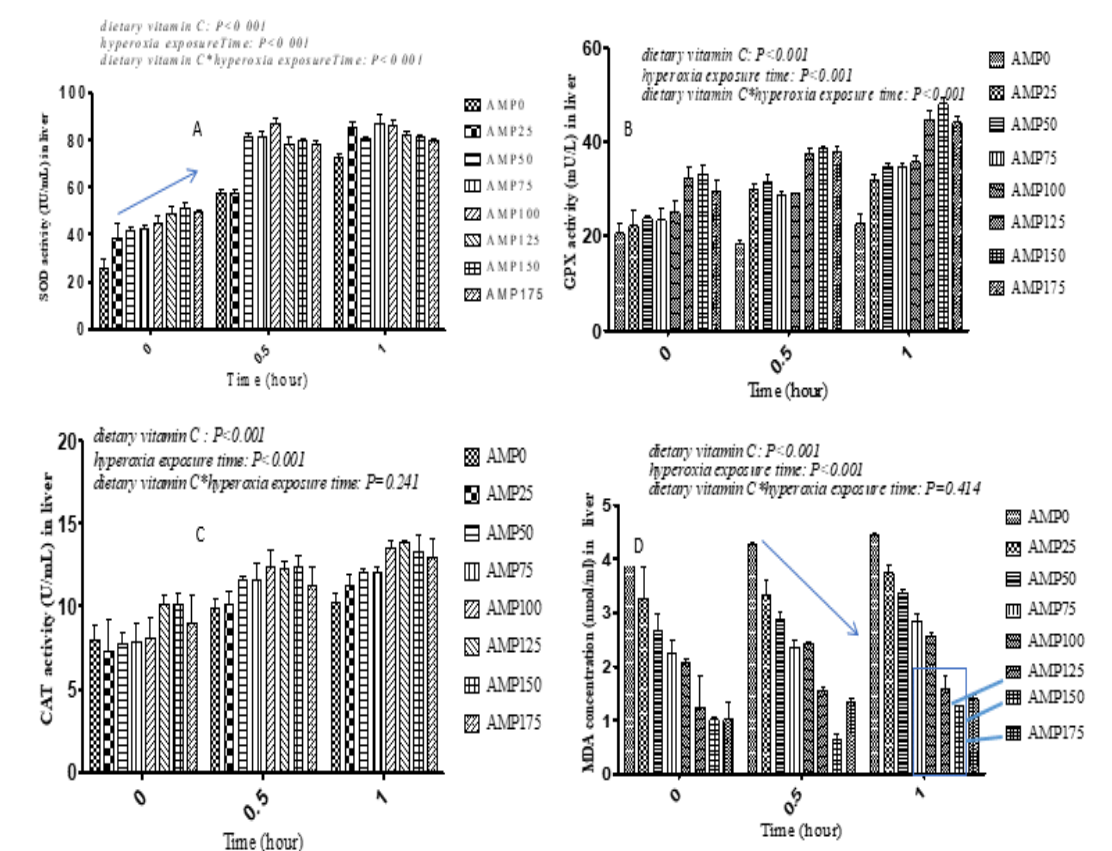


Fig 2. Hepatic Antioxidant activity and MDA level

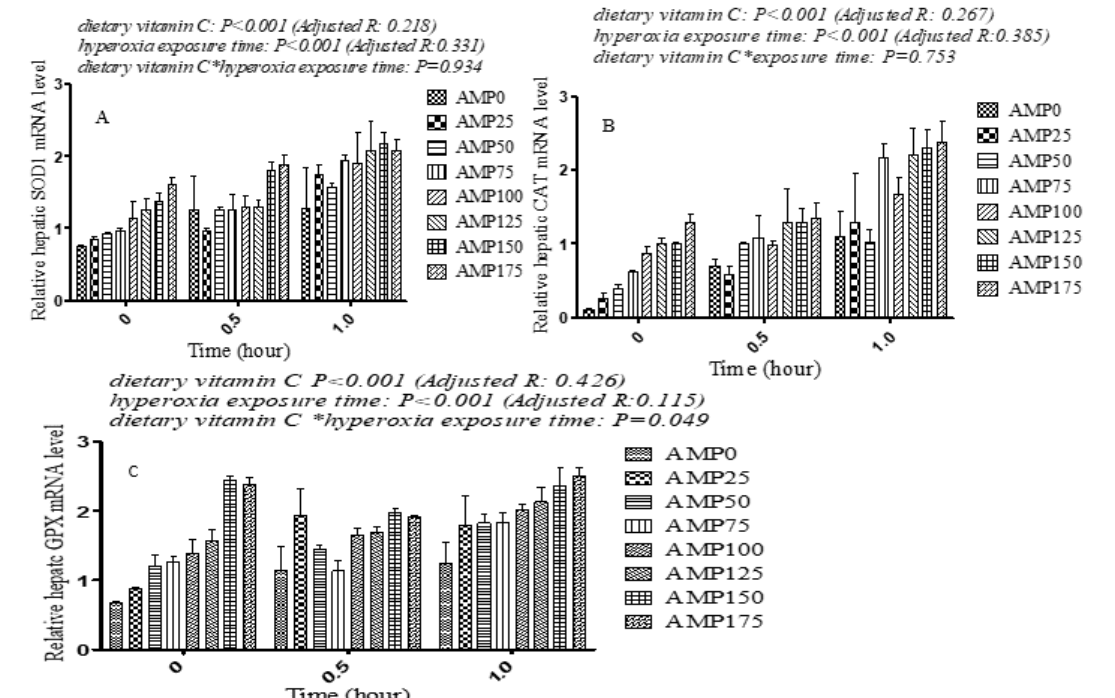


Fig 3. Hepatic antioxidant mRNA gene expression levels

- Dietary vitamin C significantly elevated the plasma and liver antioxidant activity.
- Juveniles fed basal diet showed lowest plasma and liver antioxidant pool
- All antioxidant (SOD, GPx and CAT) activity were elevated by water oxygen saturation level at 0.5 and 1h exposure time,
- MDA concentration were significantly ($P < 0.05$) lowered as dietary vitamin C level increased and MDA levels were maintained in juvenile largemouth bass AMP125 to AMP175 group after exposed to hyperoxia condition, but MDA increased in AMP0 group.
- Dabrowski et al. (2004) indicated that the fish under hyperoxic conditions were in some oxidative stress. The oxidative stress under hyperoxic conditions may be attributed to an increased level of reactive oxygen species (ROS).

CONCLUSION

Dietary vitamin C and acute hyperoxia condition actuates antioxidant defense in juvenile largemouth bass.

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