HISTOCHEMICAL INVESTIGATION OF LIPOFUSCIN PIGMENT IN PRE MATURE AGE IN HEART OF *CATLA CATLA*

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ABSTRACT

Aging is time dependent functional decline that affects most living organism, has attracted curiosity and excited imagination throughout the history of humankind. Changes normally associated with aging in the central nervous system of man, include shrinkage of the brain and probable loss of neurons, deposition of lipofuscin pigments in neurons and glial cells. In the present investigation the histochemical nature of lipofuscin pigment in heart cells of pre mature age of *Catla catla* was carried out. The lipofuscin pigment in heart cells of pre mature age level reacted strongly with Nile blue A method, reacted moderately to Ferric ferricyainde method and mildly affinities with Carbol fuchsin method

Figure:02 Reference: 10 Table: 01

KEY WORDS: *Catla catla,* Heart , Histochemical study, Lipofuscin, Bhakura, Nile blue A, ferric ferricyanide

INTRODUCTION

Aging is a definite time course and direction for the individual changes in different organs of an organism. The total of which result in the failure of individual to with stand the stress of his environment.Lipofuscin originally described age-related brown pigment granules observed in histological sections of animal tissues. Lipofuscin is thought to accumulate in lysosomes as a result of cellular lipid per oxidation processes. The accumulation of change in lipofuscin in tissues mostly considered the general cause of aging ·lipofuscin is a post mature age pigment commonly associated with aging It is believed that lipofuscin be the last production of lipid per oxidation reaction and may shows lysosomal material that the cell cannot discard.

MATERIAL & METHOD

Heart tissues of pre mature age group of Catla catla were fixed in bouin's fluid, tissues were then transformed in alchoholic series and materials were kept in molten paraffin and blocks were prepared.

Finally paraffin sections were cut at 6 µ thickness and stains with Nile blue A, ferric ferricyaine and carbol fuchsin for histochemical study.

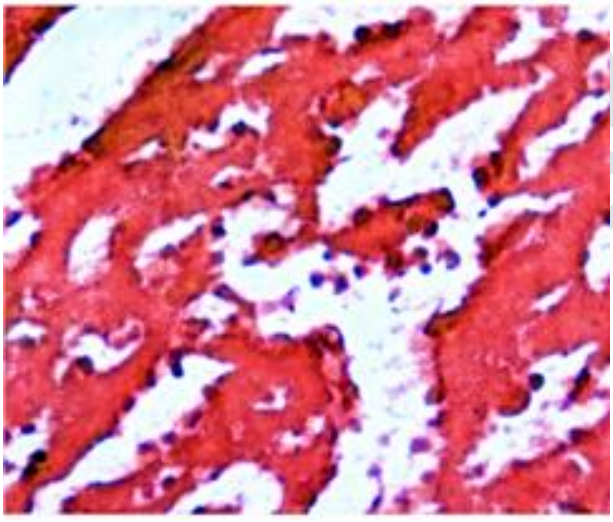
RESULTS & DISCUSSION

In the present investigation the lipofuscin pigment in heart cells of pre mature age level of *Catla catla* reacted strongly with Nile blue A method, reacted moderately to Ferric ferricyanide method and mildly affinities with Carbol fuchsin method. This observation is in agreement with the findings with lipofuscin in the cells of *Rana*, *Uromastrix* and *Natrix* reacted strongly with Nile blue A. The lipofuscin pigment in brain and heart cells of young fishes reacted moderately affinities with Ferric ferricyanide method. The findings concord to those of in neurons of young mice and nervous system of young squirrel.The haterogeneous granules of lipofuscin pigment were prominent in the heart of pre-mature *Catla catla* where it was irregularly scattered in the cytoplasm.

HISTOCHEMICAL NATURE OF LIPOFUSCIN PIGMENT

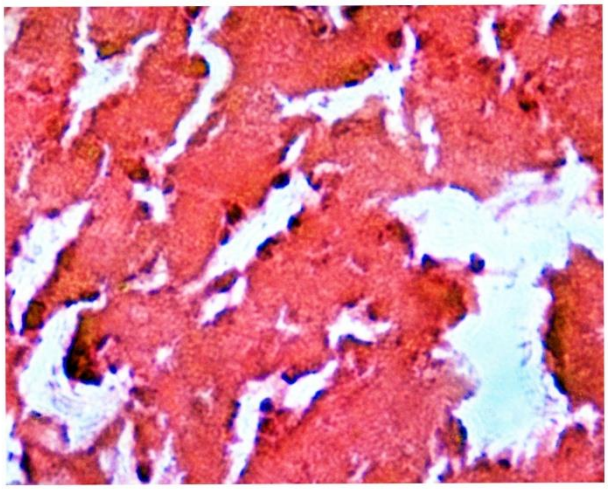
Age group	Tissues	Nile blue A	Ferric ferricyanide	Carbol fuchsine
Pre mature	Heart	+++	++	+

+++ Strongly positive, ++moderately positive,+Mildly positive



Section of the heart from early pre mature age cells showing without lipofuscin Nile blue A stains*300

Fig.(A) Histochemical study in fish *Catla catla* in section of heart from early pre mature Age cells showing no lipofuscin accumulation, stains with Nile blue A*300



section of the heart from early pre mature age of cells showing without lipofuscin Ferric ferri-cyanide stains*300

Fig.B Histochemical study in fish *Catla catla* in section of heart from early pre mature Age cells showing no lipofuscin accumulation, stains with Ferric ferri cyanide*300

Conclusion: we found that lipofuscin pigment was not seen in premature age of heart in C*atla catla*.

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