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Editorial Board

Dr. R P Surendra Kumar
Department of Biology
Sri Krishnadevaraya University
Anantapur - 513 003
India

11 May 1991

Dear Dr Kumar,

I am now able to consider your paper, 'Increase in glucose-6-phosphatase and glycogen phosphorylase in liver following insonation of mouse pancreas, co-author B Mahendra Varma, sent for consideration of publication in Acoustics Letters.

My advisors reported favourably, and I am pleased to accept the paper for publication.

As before, you will be sent your set of reprints as soon as the paper appears in print.

With best wishes,

John C Scott,
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INCREASE IN GLUCOSE-6-PHOSPHATASE AND GLYCOGEN PHOSPHORYLASE IN LIVER FOLLOWING INSONATION OF MOUSE PANCREAS

B. MAHENDRA VARMA AND R.P. SURENDRA KUMAR
CANCER BIOLOGY AND BIOULTRASONICS DIVISION, DEPARTMENT OF ZOOLOGY,
SRI KRISHNADEVARAYA UNIVERSITY, ANANTAPUR. 515 003., INDIA.

ABSTRACT

Mouse pancreas was exposed in vivo to a Continuous and unfocused wave ultrasound of 875 KHz at Spatial peak intensity of 1 W/cm² for 300 seconds spread over five days with a gap of exact 24 hours between each exposure. Glucose - 6 - Phosphatase level showed significant increase while change in Glycogen Phosphorylase was minimal in specimens of day zero. The blood glucose level showed a significant decrease. These changes were observed in all the animals sacrificed on day one, day five and day ten. Ultrasound seemed to enhance the metabolic pathways in liver associated with cellular energy.
BIOCHEMISTRY INTERNATIONAL
NOTICE OF ACCEPTANCE

I am pleased to advise you that your paper —

Title: SOME BIOCHEMICAL CHANGES IN MOUSE AFTER IN-VIVO IRRADIATION OF PANCREAS WITH ULTRASOUND

Author(s): B.M. Varma and R.P.S. Kumar

HAS BEEN ACCEPTED FOR PUBLICATION IN BIOCHEMISTRY INTERNATIONAL. The manuscript has been forwarded to the publisher.

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Date July 18, 1991

Yours sincerely,

Osamu Hayaishi

for The Editors

Osamu Hayaishi
SOME BIOCHEMICAL CHANGES IN MOUSE AFTER IN-VIVO IRRADIATION OF PANCREAS WITH ULTRASOUND

B. Mahendra Varma and R. P. Surendra Kumar

Cancer Biology and biomedical Ultrasonics division
Department of Zoology Sri Krishnadevaraya University
Anantapur - 515 003, India

SUMMARY

875 KHz continuous wave of ultrasound at 2.5 W/Cm\(^2\) intensity revealed certain biochemical and enzymological changes in mouse pancreas and liver following the irradiation of pancreas in-vivo for a total of 300 seconds spread over five days. The sacrifice of the animals were carried out on day 0, day 1, day 5 and day 10. Blood glucose was reduced significantly with concomitant increase in liver glycogen. Glucose-6-Phosphatase in liver was decreased significantly while glycogen phosphorylase showed marginal variations. Increased calcium pool in pancreas along with Ca\(^{+2}\)activated ATPase was observed. These alterations were prevalent in all the days of sacrifice and also for more than 10 days of rearing period. The results are suggestive of ultrasound could stimulate the release of pancreatic secretions.