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BIOCHEMICAL CHANGES IN MUSCLE STRUCTURES OF PATIENTS AFFECTED BY PULMONARY TUMORS

G Nigro*, V Pastore**, L I Comi*, L Politano*, M Santini**, V G Di Crescenzo**,
V R Petretta*, V Bianchino*

* Istituto di Medicina Interna e Nefrologia - University of Naples - Italy

**Istituto di Clinica Chirurgica d'Urgenza -University of Naples -Italy

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The Authors examined bioptic specimens of thoracic muscles in patients affected by pulmonary tumors.

Observations were made by both electron microscopy and study of muscular respiratory metabolism, with particular reference to cytochrome c levels. Ultrastructural changes were ascertained only in a limited percentage of patients whereas in all the patients significant variations of cytochrome c at tissue levels has been observed. Analysis was made on the correlation among the types of tumor and on changes in muscle respiratory metabolism. The data regarding this correlation are shown in the Table 1 and concern the skeletal muscle of the thorax in 30 subjects aged from 19 to 70 years.

Table 1 Cytochrome c levels (mg/100 g dry weight) in skeletal muscle

Group	No cases	(mean ± S.D.)
Normal	6	35.78 ± 7.3
Lymphoma	5	26.78 ± 1.7
Not metastasized carcinoma	11	14.93 ± 5.5
Metastasized carcinoma	8	9.81 ± 2.5

We can observe that the cytochrome c levels appreciably decrease in muscles of patients affected by carcinoma whereas they remain at normal levels in subjects affected by lymphoma. The lowest levels have been found in cases of metastasized carcinoma.

Note: the differences ascertained among the various clinical situations proved to be statistically significant (see Table 2)

Table 2 Results of unpaired t-test

Normal	vs.	Lymphoma	P < 0.0125
"	"	Not metastasized carcinoma	P < 0.0005
"	"	Metastasized carcinoma	P < 0.0005
Lymphoma	"	Not metastasized carcinoma	P < 0.0005
"	"	Metastasized carcinoma	P < 0.0005
Not metastasized carcinoma vs. Metastasized carcinoma			P < 0.0250

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