

نشاط انزيمات الترانسامينيز في سيرم الجاموس
الصاب بالسل

م . أمين ، م . شكرى ، ص . عبد الكريم

تم فحص عدد ٢٠ عينة سيرم من جاموس مصاب بالسل ، كما ظهر من أختصاصات
التبركليس والصفة التشريحية ، وكذلك عدد ١٠ عينات من سيرم جاموس غير
صاب . وذلك لتقدير كمية ونشاط انزيمات الترانسامينيز . وقد وجد
البحث ان هناك زيادة معنوية في مستوى انزيم الجلوتاميك أو كمالجاستيك ترانسامينيز
في سيرم الحيوانات المصابة بالسل عنها في الحيوانات السليمة .

ومن ناحية اخرى لم يحدث اى تغير معنوى في مستوى انزيم الجلوتامينو
بوفلا ترانسامينيز في سيرم الحيوانات المريضة والسليمة . وتعتبر هذه النتيجة
ذات قيمة في تشخيص مرض السل بالاضافة الى اختبارات التبركليس .

Dept. of Veterinary Medicine, Fac. of Vet. Med. Cairo University.
Head of Dept.: Prof. Dr. A. A. Bassiouni.

TRANSAMINASE ACTIVITY IN SERA OF EGYPTIAN
TUBERCULUS BUFFALOES

By

M.M. AMIN, M. SHOKRY and S. ABD EL-KARIM.

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SUMMARY

Serum samples from 20 tuberculin positive and 10 tuberculin negative buffaloes were subjected to determination of GO-T and GP-T activity. It was found that there was a significant increase in the level of GO-T in the sera of tuberculous buffaloes than healthy ones. On other hand there was no significant changes in GP-T level in the sera of tuberculous than healthy buffaloes. This observation may be of value as a diagnostic procedure beside the tuberculin test.

INTRODUCTION

The changes in the serum concentration of GO-T and GP-T as determined by their biochemical activity occur essentially as a result of some processes involving the body tissues (WROBLEWSKI and LA DUE, 1955; MOLANDER ET AL., 1955; WROBLEWSKI and LA DUE, 1956; KING and WOOTON, 1959; FORD and LAWERENCE 1965 KAMALYAN ET AL., 1969 and HOFMANN and EL-AMROUSI, 1974).

Consequently the presence of higher concentration of such enzymes may be used diagnostically in order to assess the level of destruction of the body organs. Therefore the aim of this work is to estimate the effect of tuberculosis upon the activity of serum GO-T and GP-T in egyptian buffaloes.

MATERIALS AND METHODS

Blood samples were collected from 10 tuberculin negative buffaloes and 20 tuberculous ones at Guiza. These animals were apparently healthy and proved to be free from internal and external parasite as well as blood parasites. The collected samples were used for obtaining clear serum which subjected to determination of the enzymatic activity of both GO-T and GP-T by using the method of REITMAN and FRANKEL (1957).

All the tuberculin positive cases showed tuberculous lesions on post mortem examination except one case (Serial no.1) which showed traumatic reticul-peritonitis only.

The obtained results were analysed statistically as stated by SNEDECOR (1956).

RESULTS AND DISCUSSION

Data concerning serum GO-T and GP-T activity in tuberculin negative and tuberculous buffaloes are presented in Table 1 and graphically illustrated in Fig. 1.

With reference to the normal average level of serum GO-T and GP-T the present data were contradicted those obtained by AWAD (1966) who recorded a considerably lower levels of both SGO-T and SGP-T in healthy female buffaloes. The respective values were 27.45 ± 5.78 and 4.28 ± 0.67 F.U. per ml of serum.

On other hand, approximately similar results were recorded by MALHERBE (1960) and SINDELAROVA et al. (1965) in bovine sera.

From the present study, it was noted that there is a significant increase in SGO-T level ($P < 0.001$) in tubercul-

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ous buffaloes rather than tuberculin negative one. Meanwhile, no marked changes in the level of GP-T in the sera of tuberculin positive than tuberculin negative buffaloes. (Fig.1).

The significant increase in serum GO-T in tuberculous buffaloes may possibly be interpreted as the great tendency of the lungs and lymph nodes- the main tissues being invaded by the tubercle acid bacilli- to the affection than other tissues. In this respect CORNELIUS et al. (1959) had found a considerable level of GO-T in bovine lungs and lymph nodes, whilst GP-T level was nil in these tissues.

The tuberculin-non specific-positive buffalo suffering from traumatic reticulo-peritonitis may included in this group on the basis that tubercle bacilli could be isolated from lymph nodes of tuberculin negative buffaloes showing no apparent lesions (ZEIDAN, 1972). Another explanation may be also offered that the presence of other acid fast bacilli in the animal body rendering it sensitive to tuberculin reaction.

The obtained results are supported by the findings of GOULD and GRIMES (1959) and HUHN (1961) where the level of serum GO-T is increased in John's disease cases.

Additionally, GOULD and GRIMES (1959) had found an elevation of serum GO-T level which may reach up to 280 F. U. per ml. of serum in cases of inflammation of lungs. GRÜNDER (1961) recorded 15.8 per cent of pneumonia cases with a significant rise in the serum GO-T activity.

Hence, the determination of serum GO-T could be considered as beneficial diagnostic procedure for assessing the degree of tissue damage in either lymph nodes or lung tissues which contain only GO-T (CORNELIUS, et al.; 1959) in case of tuberculosis beside the tuberculin test.

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Table 1
 Statistical analysis of the obtained results

Enzymes	Tuberculin	Minimum value	Maximum value	Mean.	S.E.
SGO-T	Positive	25.4	97.8	62.005	± 3.566
	Negative	33.5	54.4	46.51	± 1.954
SGP-T	Positive	6.4	46.2	27.08	± 2.183
	Negative	25.4	45.2	33.28	± 1.910

① Significant under P < 0.001.

S.E. : Standard error.

SGO-T: Serum glutamic-oxaloacetic transaminase in Francle Units per ml. of Serum.

SGP-T: Serum glutamicopyruvic transaminase in Francle Units per ml. of serum.

