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RESEARCH ARTICLE

Role of B Lymphocyte stimulator factor in systemic lupus erythematosis patients.

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Abstract

Bachground. The pathogenesis of systemic lupus erythematosus [S L E] is complex .Target tissue damageis caused primarily by pathogenic autoantibodies and immune complexes. B cells play a central role in SLE

Objectives. this cross sectional study aimed to detrmined level of serum b lymphocyte stimulator and find any correlation with activity and severity in SLEpatients

Subjects. This study was done on 35 SLEpatients and 35 apparently healthy controls

Methods. All patients subjeced to full history taking ,general examination, locomotor examination, routine laboratory inestigations ,assessment of serum level of b lymphocyte stimulator factorby ELISA

results. Serum levels of lymphocyte stimulator were significantly higher in SLE patients than normal subjects

Also there was significant correlation with SLEDAI,CRB,ANA and Anti-dna .But no significant correlation with C3, C4 , age, disease duration

Conclusion. This results may prove the possibility that a human monoclonal antibody drug which selectively inhibits BLyS biological activity may be useful in treatment of active resistant cases

Introduction:-

B lymphocyte stimulator [BLyS] is a potent B cell survival factor .The numbers of mature B cell in secondary lymphoid organs,as well as Ig levels and Ig response to T cell -dependent and Tcell-independent antigens are markedly reduced in mice rendered gentically deficiently in BLyS .[1]Although 3 BLyS receptors are known[BCMA,TACI,andBAFF-R],the agonist effects of on Bcell are mediated mainly via BAFF-R[2]

Elevated BLyS levels have been implicated in abnormalB cell develoment,including autoatibody production,lymphadenopathy development and lymphomas[3]

Subject:-

This study was done on 35 SLE patients attending the outpatient clinic of rheumatology and rehabilitation Debartment.,Zagazig university hospitals diagnosed according to [4]

And 35 apparently healthy age and sex matched control

Exclusion criteria:-

Drug induced lupus,infiction ,metabolic disorders renal stone

Methods:-

patients were subjected to

Full history taking., general examination., local examination of locomotor system., Assessment of disease activity by SLEDIA1-2Kscore [5]

Activity categories were defined on the basis of SLEDAI scores[6]

Laboratory investigations.
Complete blood picture.,Erythrocytic sedimentation rate ,C reactive protien.,24hr urinary protien.,Kidney and Liver function
Specific laboratory invesigations.
ANAdone by ELISA,Anti-DNA done by indirect fluorescent test,C3,C4 done by immunodiffusion plate and BLyS detcted by ELISA

Statistical study:-
Analysis were performed using SPSS version 12.0.1

Results:-

This study included 70 subjects,35 of them SLE patients 33 females and 2 males,their age ranged from [17-50]years with the mean 31years,duration of the disease ranged from [1-20] with the mean 4.4 years
The other35subjects apparently healthy who were age and sex matched with the SLE group

Table[1]Number and percentage of SLEDIA variables in SLEpatients

S.no	Items	Numbers of patients	percentage
1	Neuropsychiatric manifestation		
	Headache	7	20%
	Seizure	2	5.7%
	Psycosis	4	11.4%
	Crenial nerve affection	0	0%
	Organic brian syndrome	0	0%
2	Visual changes	1	2.8%
3	cerebrovasular	1	2.8
4	Vasculitis	7	20%
5	Arthritis	24	68%
6	Myositis	1	2.8
7	Skin manifestations		
	Malar rash	28	80%
	Alopecia	5	14.3
	Mucosal ulcer	10	28.6
8			
	Pleural effusion	4	11.4%
	Pericardial effusion	1	2.8
9	Fever	20	57.1%

Table[2] SLE activity categories according to [SLEDIA]

SLEDIA	No	Percentage
Inactive[0]	1	2.8%
Mild Active[1-5]	9	25.7%
Moderate Active[6-10]	10	28.6%
High Active[11-19]	8	22.8%
Very High [20]	7	20

Table[3]. Laboratory findings among SLEpatients.....

Items	No	Percentage
Leucopenia	9	25.7%
Thrombocytopenia	8	22.7%
Heamolytic anemia	0	0%
Protienuria	25	71.4%
Cellular casts	5	14.3%
Heamatoria	9	2.57%
Low C3lev el	19	54.3%
Low C4 level	13	37.1%
Positive ANA	35	100%
Positive Anti-DNA	27	77.1%
	Median	Range
ESR level mm/hr	42	8-110
CRB levelmg/di	6.7	1-110

Serum levelof B LyS were significantly higher in SLEpatients than in normal subjects
is no significant correlation bewteen BLyS and C3,C4.age and disease duration
There was significant correlation between BLyS and skin rash ,arthritis ,raynauds pheneomana,photosenitivity and mucosal ulcer
but there was no significant correlationwith myalgia and discoid rash
According to laboratory fidings there was significant correlation with ANA,Anti -DNAand CRB

Discussion:-

B lymphocyte stimulator[BLyS] a soluble ligandof TNF cytokine family,is a prominent factor in B cell differntiation,homeostasis and selection

The results of this study showed that there were significant elevation of BLySin SLE patients than control group,this agreed withthe results of **Ruiz-Irastorza,etal 2012[7]**

This study showed that no significant correlation beween BLyS level and C3,C4, age and disease duration.This fiding in agreement with **Sun et al[2013][8]**

In the current study ,the result present an association between BLyS and arthritis ,mucosal ulcer photosesitivity,skin rash ,and raynauds phenomana but there was non significant correlation with discoid rash and myalgia

McCarthy etal[2013][9] found BLyS were less elevated in those with arthritis ,discoid rash, myalgia,and photosestivity

This study showed positive significat correlation between BLyS levels with ANA and Anti-DNA **Thorn etal[2010][10]** founded that BLyS levels were positive correlated with ANA and anti-DNA but **Fawzy etal[2011]**[11] they did not found relationship between BLyS and ANA and anti-DNAantibodies

In the present study BLyS levels had significantly positive correlation with SLEdisease activity score [SLEDIA] this result agreed with **SeifEldin et al [2013][12]** who founded highly positive correlation bewteen BLyS and SLEDIA score

Conclusion:-

This results may prove the possibiltythat ahuman monoclonal antibody drug which selectively inhibits BLyS biological activity may be useful in treatment of active resistant cases

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