Sample of Level 2 English Editing

Field of research: Medicine

High avidity cytokine autoantibodies in health and disease: pathogenesis and mechanisms

INTRODUCTION

In 1981, antibodies against interferon (IFN)-α or IFN-β were reported in participants of~~—~~ clinical trials evaluating administration of these exogenous recombinant human cytokines~~.~~ [1,2]~~.~~ Less than a decade later, naturally occurring autoantibodies against endogenous interleukin-1α (IL-1α) were reported.~~.~~ [3,4]~~.~~ Cytokine autoantibodies have been identified in pharmaceutical preparations of intravenous immunoglobulin (IVIG) and in the healthy subjects from ~~which~~ whom IVIG ~~is~~ were derived~~prepared~~ [5-9]. Numerous studies have additionally demonstrated that cytokine autoantibodies ~~can~~ are detectable~~be detected~~ in health and disease in various tissues, including blood,[3,4,7,10-14] lung,[10,15-17] pleural fluid,[18] central nervous system,[19] gums~~,~~[20] and synovial fluid.[21,22] In some cases, specific autoantibodies have been implicated in ~~or predisposing to~~ disease pathogenesis or predisposition.[10,14,16-18,23-27] Others appear to ~~cause~~be responsible for the~~the~~ associated physical manifestations of disease.[28-30] In addition to blocking ~~the~~ specific cytokine function, cytokine autoantibodies may play important roles in health and disease by virtue of their ability to form immune complexes [12,13,16,17,31-33], which can interfere with their detection by conventional cytokine 'antigen-capture' method~~ologies~~ [12,13]. The r~~R~~ecent development of novel methods has improved our ability to detect cytokine autoantibodies and ~~therefore~~ has enhanced our understanding of their ~~real and potential~~ role and function~~s in health and disease~~. ~~Here~~ In this report, we review~~ed~~ the current literature ~~documenting~~ relating to the presence, biological function, potential mechanisms of production and significance of cytokine autoantibodies.

Comment [SU1]: CHECK: It would be a good idea to use a reference formatting program such as Endnote to ensure your references are all formatted the same. You have some with the references after the full stop and some with them before the full stop. Consider checking through your in-text citations in order to maintain consistency in reference formatting.

Comment [BeK2]: CHECK: I assume by manifestations you are referring to the physical (clinical) manifestations of the disease. I have clarified this for you in the edit.

CYTOKINE AUTOANTIBODIES IN DISEASE

Cytokines autoantibodies have been ~~reported~~ detected in patients with ~~in~~ various diseases~~.~~ (Table 1). ~~To better understand~~To explore the pathogenic roles of cytokine autoantibodies in each of these diseases, we have discussed ~~below~~ ~~described~~ (1) ~~introduction~~the role of ~~a particular~~each ~~the~~ cytokine ~~and~~in the given disease, (2) the ~~frequencies~~incidence ~~of detection~~ of ~~the~~ autoantibod~~y~~~~ies~~ detection in the disease, (3) ~~reports identifying a~~the mechanism of their function in disease pathogenesis, and (4) reports dealing with the association of ~~the~~ autoantibodies with certain therapies or clinical manifestations. In each case, the effects on disease pathogenesis or severity ~~are~~were linked to the biologic function(s) regulated by the specific cytokine and the interrelationship of this regulation with other members of the cytokine regulatory network (Figure 1).

In this section, the actions of cytokine autoantibodies associated with disease~~s~~ ~~are~~were classified into four categories. ~~Firstly~~The first category describes, ~~the~~ autoantibodies ~~highly~~that effectively abrogat~~e~~~~ing~~ cytokine activity and are largely ~~can be~~ the primary cause or predisposing factor of disease pathogenesis~~,~~ when ~~they are more abundant than~~present in levels over ~~a~~ certain critical threshold,[12] ~~or can be predisposing to the diseases.~~ (Figure 2A). ~~Secondly~~Autoantibodies of the second category involved those~~,~~ ~~increases in some cytokine autoantibodies~~ which exacerbate certain diseases by augmenting cytokine activity~~ies~~ (Figure 2B). The third category consisted of~~Thirdly~~, those cytokine autoantibodies that ~~may~~ attenuate the severity of certain diseases~~.~~ (Figure 2C), while the last category~~.~~ ~~Finally~~ described those whose ~~,~~ ~~although the~~ roles ~~of cytokine autoantibodies~~ are unknown, although their induction is thought likely to be triggered by certain diseases.