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Perspective

Risk Factors of Auto Immune Disorders in Immunodeficient Patients

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ABOUT THE STUDY

More than 450 innate immune system mistakes make up the Primary Immuno Deficiency (PID) group of disorders, which are on the rise. Despite being rare diseases, PIDs are more prevalent than previously believed as a result of the use of cutting-edge diagnostic techniques. According to a recent assessment, PIDs impact 1%–2% of the global population at the very least. PIDs are highly prevalent in children, according to studies from our nation. In this regard, teaching family doctors, pediatricians, and in particular infectious disease experts about PIDs will enable early diagnosis of these patients; early and good treatment may enable them to reach maturity.

To doctors' knowledge of PIDs' early diagnosis, a number of warning indicators have been identified. When a child with a history of recurrent infections is hospitalized, a thorough medical history should be taken, and in addition to a thorough physical examination, the 10 PID warning indicators should be assessed. With the help of this strategy, PID patients will be able to receive an early diagnosis and potentially effective treatment before organ damage occurs. Patients with secondary immunodeficiency have not yet been studied for these warning signals of Secondary Immuno Deficiency (SID).

This study is to determine whether the ten warning indicators used to diagnose PID are also sufficient to diagnose SID and to look into the possibility of additional warning indications. Currently, medical practitioners' knowledge of PID and expertise using a clinical approach to treat a patient with PID are still insufficient. As a result, the JMF created the "10 Warning Signs of Primary Immunodeficiency Diseases," which has greatly aided in the diagnosis of PID, by combining the history characteristics, physical examination findings, and expert opinions. According to the warning indicators used in our investigation, the ratings of PID and SID patients were statistically greater than those of the control group. Additionally, we discovered that paternal consanguinity, a history of Tuberculosis (TB) in the family, and severe diarrhoea may also be indicators of PID.

The requirement for IV antibiotics was among the top 10 warning indicators. Failure to flourish (31%) and a family history of PID (34% each) were the next most typical red flags. Similar to this, the most typical warning indication in the study was the requirement for IV antibiotics (92%). The requirement for IV antibiotics was the most prevalent warning sign in both our study and these two studies (82.9%). Having two or more lower respiratory tract infections within a calendar year (64.3%) and using oral antibiotics for more than two months with little benefit (45.9%) were the second and third most frequent warning signs, respectively. Our results show that the 10 warning signals can be utilized to diagnose PID, even if they may appear in a different order of frequency and at various times depending on the study.

PID diseases may also be accompanied by frequent infections, a more severe course than anticipated, persistent infections, the occurrence of unexpected or serious complications brought on by infections, an incomplete recovery from antibiotic treatment, the requirement for prolonged antibiotic use, chronic infectious disease courses, and the occurrence of infections with unusual agents. Children with a good immune system and no additional risk factors typically recover from infections quickly and without any consequences. In our study, frequent recurring upper respiratory infections in the PID group and frequent recurrent lower respiratory infections and failure to thrive in the SID group were important warning indicators. This might be because our SID patients have a high rate of antibody deficiency and concomitant diseases like epilepsy and tracheostomies.

The most prevalent PID subtype in our analysis was antibody deficits, which are also the most prevalent PID group. Our findings are in line with those of other studies, and they also accord with the databases of the European Society for Immunodeficiency. However, considering that PID patients have higher rates of malignancies, autoimmune, allergy, and hematological illnesses, the medical history should be carefully examined in this regard. According to studies, extra warning indicators are required for such patients in order to help an early

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diagnosis. In our study, the PID and SID groups had considerably higher rates of a family history of allergies, rheumatic illnesses, and cancer than the control group. Infections, immunological dysregulation disorders, and cancers can all manifest in patients with immunodeficiencies; we believe that these conditions should be viewed as early indicators of immunodeficiency.

In conclusion, early detection of PID will allow for effective treatment of these diseases. The 10 warning signs of PID diseases are critical for early diagnosis of PID. According to our findings, a family history of parental consanguinity or tuberculosis, as well as a history of chronic diarrhoea, may be warning signs of PID. These additions may be clarified by research from various immunology centers. This approach will allow for early diagnosis of PID and, as a result, early and effective treatment, allowing patients to reach adulthood before organ injury develops.