

*Immune system disorders cause abnormally low activity or over activity of the immune system. In cases of immune system over activity, the body attacks and damages its own tissues (autoimmune).*

About 25 percent of people with autoimmune diseases have a tendency to develop additional autoimmune diseases. The combination of three or more diagnosed autoimmune disorders in one person is called Multiple Autoimmune Syndrome MAS. Scientists are investigating the exact reasons why people may get more than one autoimmune disease, but they agree that some of these diseases are linked through genetics and environmental causes, says Jane Buckner, MD, President of Benaroya Research Institute at Virginia Mason BRI. BRI is a pioneer in understanding and discovering the commonalities between autoimmune diseases. As we more fully learn how the diseases operate, we can apply the right therapies to diagnose, treat, cure and ultimately prevent autoimmune diseases. Some diseases occur together more frequently, such as type 1 diabetes and celiac, because of a shared gene that predisposes for these diseases. In people who have three autoimmune diseases or more MAS, researchers and physicians have identified groups of diseases that cluster together. This may be a helpful tool for doctors diagnosing additional autoimmune diseases in one person since there are more than 80 different disorders. As a practicing rheumatologist for instance, Dr. Also, in some cases, the combination of diseases may require a change in medication. For instance, a patient may have ulcerative colitis, which affects the gut, and see a gastroenterologist for care. Meanwhile she may also develop vitiligo, which affects the skin, and see a dermatologist for care. The patient might not be aware they are both autoimmune diseases. Parents of children with autoimmune diseases should also be alert to symptoms. It is also a main gene in Down syndrome. Then we can go back to the broader patient populations with type 1 diabetes and other autoimmune diseases to understand who else might benefit from DYRK1A inhibition. Blood samples donated by participants with Down syndrome including those with and without autoimmune diseases, will be used to move research forward. Their parents and siblings can advance science by joining the Healthy Control Biorepository. Some of these genetic connections, many of which are studied at BRI, are illustrated below. This is the type of analysis that is helping move treatments away from emphasis on the tissue that is being attacked toward a focus on the pathway type of cell that needs to be fixed “pathways that are sometimes shared by patients with different diagnoses. They teach us about the disease and which therapeutics will work, and then we can apply it to the general population in clinical studies. This opened the door for treatments of the disease and led the way so that today, there are clinical trials for the prevention of type 1 diabetes. We learn from one disease and see how we can apply that information to another. That is how we can accelerate research and optimize our abilities to help people with autoimmune diseases as quickly as possible.

**Chapter 2 : Autoimmune diseases e-book contents**

*An autoimmune disease is a condition in which your immune system mistakenly attacks your body. The immune system normally guards against germs like bacteria and viruses. When it senses these.*

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**Abstract** One characteristic of autoimmune diseases ADs is the production of autoantibodies for extractable nuclear autoantigens, which may aid in the discrimination of the different types of autoimmune diseases and is related to different antinuclear antibody ANA patterns. The present study verified the profile of patient samples tested for extractable nuclear antigens ENA antibodies in a public hospital and correlated the ENA results with ANA patterns and patient diagnoses. The ANA reagent was found in The most common pattern was nuclear fine speckled, which was found in Systemic lupus erythematosus and scleroderma were the most common pathologies in the antigen-positive patients. The anti-ENA test is a good marker to aid in the complex clinical diagnosis of patients with autoimmune diseases.

**Introduction** Multiple factors cause autoimmune diseases and involve a wide variety of genes and environmental factors, such as stress, age, sex, hormones, and infection exposure [ 1 ]. Autoimmune diseases are characterized by autoaggression of the immune system against constitutive antigens of an individual via production of autoantibodies, which exhibit clinical significance when associated with other disease manifestations [ 2 , 3 ]. The detection of antibodies against cellular antigens AACA in HEp-2 cells, also known as antinuclear antibodies ANA HEp-2 , using indirect immunofluorescence IFI is the methodology of choice for the screening and identification of various autoantibodies [ 4 , 5 ]. The ANA assay detects a range of antibodies that react with antigens in the nucleus, nucleolus, cytoplasm, and mitotic cellular apparatus [ 6 ]. However, this test should be complemented by the research and identification of autoantibodies and specific autoantigens, many of which exhibit great clinical utility and may play roles as diagnostic markers, as prognostic indicators, or for the monitoring of autoimmune diseases [ 7 – 9 ]. The most frequent antigens described in autoimmune diseases exhibit a nuclear localization and are called extractable nuclear antigens because of the purification process; they are most commonly represented by the acronym ENA extractable nuclear antigens [ 12 ]. These autoantibodies are detected using several methodologies, such as immunoblot, counterimmunoelectrophoresis, immunodiffusion, enzyme-linked immunosorbent assay ELISA , and hemagglutination. However, variations in the results can be found because these techniques differ in sensitivity and specificity [ 13 – 15 ]. It is important to note that although the Jo-1 antigen is common in the ENA group, it is a cytoplasmic antigen. Further analysis of reactivity to ENA may contribute to an improved discrimination among the different types of autoimmune rheumatic diseases ARD. For example, the presence of anti-ribonucleoprotein RNP antibodies is part of the diagnosis of mixed connective tissue disease MCTD , and positive results for ANA and the presence of anti-dsDNA or anti-Sm constitute three of the six immunological criteria for the diagnosis of systemic lupus erythematosus SLE [ 16 , 17 ]. The appearance of anti-centromere antibodies CENP-B or topoisomerase 1 Scl aids in the diagnosis of systemic sclerosis [ 18 – 20 ]. The presence of anti-ENA is related to the different patterns of ANA tests, which are associated with manifestations of some autoimmune diseases. Therefore, the present study retrospectively evaluated the correlation between anti-ENA-positive and -negative sera, ANA patterns, and clinical data.

**Material and Methods** 2. Patients were selected only on the condition that they had undergone the anti-ENA test, i. Patients were classified according to age, ethnicity, gender, anti-ENA, and ANA test results, diagnosis, and specialty that requested the tests. The averages and percentages were obtained from the data of each patient. The slides were read on an Olympus epifluorescence microscope, with a mercury vapor lamp of watts power, by two observers, at X magnification. Samples were classified into reactives or non-reactives by comparing the fluorescence intensity observed for the sample and the fluorescence intensity observed in the control slide FITC-QC slide Immuno Concepts N. According to the staining of the nucleus and cytoplasm of the cells, different patterns were described, following the Brazilian consensus of ANA-HEp2. Patients with indeterminate anti-ENA results lacked sufficient data for conclusive

statistical tests, and these data were excluded. The tests were run in software R version 3. These patients showed an age range from 4 to 80 years, averaging Table S1 Supplementary Material presents the behavior of patients with anti-ENA-positive sera with respect to ANA patterns and titers, diagnosis for autoimmune diseases, and sociodemographic data. The anti-ENA-positive patients aged from 13 to 71 years, averaging The other most frequently isolated autoantibodies were anti-NUC The seven patients with undetermined results for anti-ENA included The following ANA patterns occurred in patients with positive anti-ENA patients in whom it was possible to obtain such data: The presence of more than one ANA pattern was verified in three samples, which were identified as a mixed pattern 8. Some anti-ENA-positive patients Most anti-ENA-negative patients were women Positive ANA results were observed in The following immunofluorescence patterns were observed: Only the titer was recorded in these samples. Table 2 provides that most However, Table 1 shows that We also observed that Two patients were not included in Table 2 because no data of titers in their ANA tests was found. Of the total number of anti-ENA tests performed, 14 8. At the anti-ENA-positive tests, Nine of these patients Distribution of autoimmune diseases and autoantibodies against extractable nuclear antigens anti-ENA. Discussion Numerous studies have demonstrated that a positive ANA test is a strong indicator of an autoimmune disease, and this test is a good methodology to extensively screen for autoimmunity. However, progressive and vigorous improvements in the technology of the various elements composing the assay, including the quality of the HEp-2 cell slides, fluorescent conjugates, and fluorescence microscopes, have revised this concept [ 24 ]. These technological improvements greatly increased test sensitivity, and current tests detect antibodies at lower serum levels and less avidity than earlier assays. Therefore, the screening for antibodies against cellular antigens also exhibits a lower specificity [ 25 ]. In addition, the prescription of the ANA test started to be made by a broad spectrum of medical specialists, which was once primarily prescribed solely by rheumatologists. Therefore, the pretest probability of autoimmunity was high and favored the diagnostic performance of the test [ 24 , 26 ]. A wide variety of specialists, who obviously treat different patients in whom the diagnosis of autoimmune rheumatic disease is less prevalent, are requesting ANA examinations with less discretion. Therefore, the chance for positive results in healthy individuals or individuals with less expressive clinical presentations is greater [ 27 &#x2013; 29 ]. This increase shows the importance of requesting tests for the identification of specific autoantibodies after receiving a positive ANA test. Our results demonstrated that This result is very similar to that reported by Jeong [ 30 ], who used an anti-ENA test with the same methodology line immunoassay and found A study in Bangladesh [ 31 ] showed autoimmune diseases in However, the occurrence is not uncommon [ 12 , 27 , 32 ] and some of these ANA-negative results could be patients in immunosuppressive therapy [ 33 ]; a revision of their medical records should be necessary to clarify this point. The methodology used in this objective is important, as Kidd [ 34 ] argued that samples that were previously negative turned out to be positive when subjected to another analysis with a different methodology. Finally, the association of different techniques ensures greater sensitivity and specificity [ 30 ]. This gives rise to the question that it was highly recommended to use anti-SSA antibody assays in addition to the ANAHEp-2 test in the function of this characteristic [ 36 ]. According to Bossuyt et al. Also, the methodology of LIA used here shows good sensitivity, and various studies demonstrate a great correlation between data obtained by LIA and other techniques. However, most studies with comparisons between different techniques of anti-ENA tests are conducted with patients who have been diagnosed with AD. However, exceptions may exist in both cases [ 45 ]. Craig [ 46 ] showed that, in a large cohort, the number of diagnoses of AD increased with the titer of ANA. Thus, the chance of finding anti-ENA increases with increasing ANA titers [ 28 , 46 ], as demonstrated in this study, with only one sample with anti-ENA-positive results in the range of lower titers of ANA-positive results. Therefore, it was not possible to establish a relationship between an ANA pattern and a specific disease in this sample. The homogeneous nuclear fluorescence pattern is primarily associated with systemic autoimmunity [ 47 ]. This pattern was observed in two patients who had a clinical condition of SLE: However, the present study observed that two of the three patients who exhibited the nuclear dense fine speckled pattern were diagnosed with rheumatic autoimmune diseases. This is corroborated by some authors [ 50 , 51 ], who showed that the antigen most related with NDFS pattern is DSF70, but the appearance of others antigens can

occur when the sample is from a patient with an autoimmune disease. The frequency of NDFS in other studies varied from 0. IIF is a subjective test and recognition of this pattern is open to interpretation [ 54 ]. The most common diagnosis in these patients was SLE. The diagnostic accuracy of anti-ENA antibodies in AD patients is known to vary with patient selection and detection technique. Previous studies conducted by Albon et al. However, unlike the approach of this study, recruitment in these studies and others [ 30 , 31 , 56 ] was based on patients with known diseases or a positive ANA, which alters the pretest probability of a positive ENA test. Association between antibodies against ENA and RA occurred in a minority of patients and was not related to symptoms, and a variety of antigens could occur in RA [ 57 , 58 ]. An association found in this work, which has not been reported in the literature, was between autoimmune hemolytic anemia and anti-nucleosome. Hemolytic anemia is a pure autoimmune disease and usually does not entail the presence of autoantibodies such as ANA or anti-ENA. In this case, it should be an initial manifestation of some systemic autoimmune diseases, such as SLE [ 17 ]. Twelve of these patients These results show the importance of the clinical association of the ANA examination, which is the screening test for autoimmunity [ 15 ]. Seven of the antigen tests performed exhibited antibody levels that were very close to the detection limit, and these patients had inconclusive or undetermined anti-ENA results. Two of these patients exhibited clinical signs of AD, and no information on the diagnosis was found for two other patients. The sensitivity of the tests performed, the experience of the professionals during the execution, interpretation of the results, erroneous requests for anti-ENA tests, and the lack of ANA results when necessary are the primary limitations of the present study. ANA examination should be requested only in the presence of a convincing suspicion of autoimmune disease because a positive result does not necessarily imply autoimmunity. However, when a positive ANA result occurs, it is important to identify the specific autoantibody involved. Conclusions The anti-ENA test was a good method to aid in the clinical diagnosis of rheumatological autoimmune diseases. In this study, several anti-ENA tests have been solicited without an ANA test, which should not occur once sensitivity of the first test is lower than the second test. It is essential to characterize the presence of antibodies that are particular to autoimmune pathologies using specific techniques in ANA-positive patients. Professionals that directly or indirectly work with anti-ENA and ANA examinations must perform an accurate and constant review of the paradigms that guide the interpretation of the results so that the clinical diagnosis and subsequent treatment of the patients can be successfully achieved. Data Availability The data used to support the findings of this study are included within the article.

**Chapter 3 : Autoimmune Diseases | NIH: National Institute of Allergy and Infectious Diseases**

*The primary NIH organization for research on Autoimmune Diseases is the National Institute of Arthritis and Musculoskeletal and Skin Diseases Disclaimers MedlinePlus links to health information from the National Institutes of Health and other federal government agencies.*

You might also like these other newsletters: Please enter a valid email address Sign up Oops! Please enter a valid email address Oops! Please select a newsletter We respect your privacy. Depending on the condition, an autoimmune disorder can affect a variety of organs , joints and muscles , or other bodily tissues. There are many different types of skin-related autoimmune disorders, including scleroderma, psoriasis , dermatomyositis, epidermolysis bullosa, and bullous pemphigoid. Since this autoimmune disorder extends throughout the body, patients can experience not only skin changes, but also symptoms in blood vessels, muscles, and organs. There are two forms of systemic scleroderma: Patients with systemic scleroderma may experience symptoms that affect that the esophagus, intestines, lungs, heart, and kidneys. CREST syndrome is named after its symptoms: In addition to the skin symptoms caused by scleroderma, patients may experience joint pain, shortness of breath, wheezing, constipation or diarrhea, bloating, weight loss, heartburn, or eye itching and burning. Men and women are both at risk for scleroderma, but the majority of cases occur in women in their thirties and forties. Occupational exposure to silica dust and polyvinyl chloride are considered risk factors for this autoimmune disorder. According to the Scleroderma Foundation, an estimated , people in the United States live with scleroderma; about 33 percent of them have the systemic type. Psoriasis is a chronic autoimmune disorder that manifests as skin redness and irritation. There are five different types of psoriasis: The most common is plaque psoriasis, in which raised, red skin patches are covered by flaky, silver-white patches of dead skin, known as scales. Current research indicates that psoriasis is most likely an inherited disorder “ commonly, psoriasis patients have a family member with the same disease or another autoimmune disorder. Episodes of this autoimmune disorder may be triggered by infections, skin injuries, sun exposure, medications, alcohol, or even stress. People whose immune systems are already compromised, such as those with HIV or undergoing chemotherapy, are at risk for more severe attacks of psoriasis. The National Institutes of Health reports that approximately 7. Usually, signs of this autoimmune disorder appear between the ages of 15 and 35, although people of all ages can be affected. An estimated 30 percent of people with psoriasis also have arthritis -- a condition known as psoriatic arthritis. This autoimmune disorder is primarily muscular in nature, but because dermatomyositis also affects the skin, it is sometimes categorized with skin-related autoimmune conditions. Dermatomyositis goes hand-in-hand with polymyositis, an autoimmune disease that causes muscle weakness, soreness, and stiffness. Patients with these conditions also may experience difficulty swallowing and shortness of breath. Dermatomyositis and polymyositis share these symptoms, but dermatomyositis is distinguished by a skin rash, normally on the upper body, as well as thickening and tightening of the skin in many areas. Dermatomyositis patients may also have purple colored eyelids. Childhood dermatomyositis is differentiated from the adult form, with symptoms including fever, fatigue, rash, and weakness. In children, the disorder normally shows up between the ages of 5 and 15, and in adults, people 40 to 60 are most at risk. The condition is more prevalent among women. There are many forms of epidermolysis bullosa, but only one, epidermolysis bullosa acquisita, is considered autoimmune in nature. For example, gentle rubbing of the skin or even an increase in room temperature can cause blisters to form. Diagnosing the correct form of epidermolysis bullosa can be challenging. This chronic autoimmune disorder involves skin blisters that range in severity. In some cases, the patient may experience only mild redness or irritation of the skin, while other, more severe cases involve multiple blisters that can break open and form ulcers. Bullous pemphigoid patients normally develop blisters on their arms, legs, or torso, and in about one-third of cases, blisters form in the mouth. Some but not all people with this condition also experience itching and bleeding gums. Cases of bullous pemphigoid have been reported in all age groups, but the disorder most commonly affects the elderly. Men and women are equally at risk for bullous pemphigoid. It is difficult to pin down the incidence of this disease because symptoms come and go, with many patients seeing the

condition completely disappear after six years. One estimate is that roughly 5 or 10 new cases of bullous pemphigoid are seen in a typical large hospital each year. If you have symptoms of any of these autoimmune disorders of the skin, see your doctor. She can help you determine what is causing your symptoms and start you on the appropriate treatment.

**Chapter 4 : List of autoimmune diseases - Wikipedia**

*Autoimmune diseases can affect anyone. Yet certain people are at greater risk, including: The diseases listed here either are more common in women than men or affect many women and men. They are listed in alphabetical order. Although each disease is unique, many share hallmark symptoms, such as.*

What is an autoimmune disease? An autoimmune disease is a condition in which your immune system mistakenly attacks your body. The immune system normally guards against germs like bacteria and viruses. When it senses these foreign invaders, it sends out an army of fighter cells to attack them. Normally, the immune system can tell the difference between foreign cells and your own cells. In an autoimmune disease, the immune system mistakes part of your body – like your joints or skin – as foreign. It releases proteins called autoantibodies that attack healthy cells. Some autoimmune diseases target only one organ. Type 1 diabetes damages the pancreas. Other diseases, like lupus, affect the whole body. Why does the immune system attack the body? Yet some people are more likely to get an autoimmune disease than others. Women get autoimmune diseases at a rate of about 2 to 1 compared to men 6. Some autoimmune diseases are more common in certain ethnic groups. For example, lupus affects more African-American and Hispanic people than Caucasians. Certain autoimmune diseases, like multiple sclerosis and lupus, run in families. Not every family member will necessarily have the same disease, but they inherit a susceptibility to an autoimmune condition. Because the incidence of autoimmune diseases is rising, researchers suspect environmental factors like infections and exposures to chemicals or solvents might also be involved 2. Eating high-fat, high-sugar, and highly processed foods is linked to inflammation , which might set off an immune response. Another theory is called the hygiene hypothesis. The lack of exposure could make their immune system overreact to harmless substances 4. Diet, infections, and exposure to chemicals might be involved. There are more than 80 different autoimmune diseases 5. Here are 14 of the most common ones. Type 1 diabetes The pancreas produces the hormone insulin, which helps regulate blood sugar levels. In type 1 diabetes , the immune system attacks and destroys insulin-producing cells in the pancreas. High blood sugar can damage blood vessels, as well as organs like the heart, kidneys, eyes, and nerves. This attack causes redness, warmth, soreness, and stiffness in the joints. Unlike osteoarthritis , which affects people as they get older, RA can start as early as your 30s 6. Psoriasis causes skin cells to multiply too quickly. The extra cells build up and form red, scaly patches called scales or plaques on the skin. About 30 percent of people with psoriasis also develop swelling, stiffness, and pain in their joints 7. This form of the disease is called psoriatic arthritis. Multiple sclerosis Multiple sclerosis MS damages the myelin sheath – the protective coating that surrounds nerve cells. Damage to the myelin sheath affects the transmission of messages between your brain and body. This damage can lead to symptoms like numbness, weakness, balance issues, and trouble walking. The disease comes in several forms, which progress at different rates. About 50 percent of people with MS need help walking within 15 years after getting the disease 8. Systemic lupus erythematosus lupus Although doctors in the s first described lupus as a skin disease because of the rash it produces, it actually affects many organs, including the joints, kidneys, brain, and heart 9. Joint pain, fatigue, and rashes are among the most common symptoms. Inflammatory bowel disease Inflammatory bowel disease IBD is a term used to describe conditions that cause inflammation in the lining of the intestines. Ulcerative colitis affects only the lining of the large intestine colon and rectum. Having too little of these hormones can affect the way the body uses and stores carbohydrates and sugar. Symptoms include weakness, fatigue, weight loss, and low blood sugar. One common symptom of this disease is bulging eyes, called exophthalmos. Symptoms include weight gain, sensitivity to cold, fatigue, hair loss, and swelling of the thyroid goiter. Myasthenia gravis Myasthenia gravis affects nerves that help the brain control the muscles. The most common symptom is muscle weakness that gets worse with activity and improves with rest. Often muscles that control swallowing and facial movements are involved. Vasculitis Vasculitis happens when the immune system attacks blood vessels. The inflammation that results narrows the arteries and veins, allowing less blood to flow through them. Pernicious anemia This condition affects a protein called intrinsic factor that helps the intestines absorb vitamin B from food. Pernicious anemia is more

common in older adults. When gluten is in the intestine, the immune system attacks it and causes inflammation. Celiac disease affects about 1 percent of people in the United States. The early symptoms of many autoimmune diseases are very similar, such as:

**Chapter 5 : Autoimmune Skin Disorders - Autoimmune Disorders Center - Everyday Health**

*Most autoimmune diseases are chronic, but many can be controlled with treatment. Symptoms of autoimmune disorders can come and go. When symptoms get worse, it is called a flare-up.*

What about psoriasis in children? How do I get psoriasis? While scientists do not know what exactly causes psoriasis, we do know that the immune system and genetics play major roles in its development. Usually, something triggers psoriasis to flare. The skin cells in people with psoriasis grow at an abnormally fast rate, which causes the buildup of psoriasis lesions. Men and women develop psoriasis at equal rates. Psoriasis also occurs in all racial groups, but at varying rates. Psoriasis often develops between the ages of 15 and 35, but it can develop at any age. About 10 to 15 percent of those with psoriasis get it before age 10. Some infants have psoriasis, although this is considered rare. Psoriasis is not contagious. It is not something you can "catch" or that others can catch from you. Psoriasis lesions are not infectious. How is psoriasis diagnosed? There are no special blood tests or tools to diagnose psoriasis. A dermatologist doctor who specializes in skin diseases or other health care provider usually examines the affected skin and determines if it is psoriasis. Your doctor may take a piece of the affected skin a biopsy and examine it under the microscope. When biopsied, psoriasis skin looks thicker and inflamed when compared to skin with eczema. Your doctor also will want to learn about your family history. About one-third of people with psoriasis have a family member with the disease, according to dermatologist Dr. Robert M. Goldstein. There are five types of psoriasis. Learning more about your type of psoriasis will help you determine the best treatment for you. **Plaque Psoriasis** Plaque psoriasis is the most common form of the disease and appears as raised, red patches covered with a silvery white buildup of dead skin cells. These patches or plaques most often show up on the scalp, knees, elbows and lower back. They are often itchy and painful, and they can crack and bleed. **Guttate** Guttate [GUH-tate] psoriasis is a form of psoriasis that appears as small, dot-like lesions. Guttate psoriasis often starts in childhood or young adulthood, and can be triggered by a strep infection. This is the second-most common type of psoriasis, after plaque psoriasis. About 10 percent of people who get psoriasis develop guttate psoriasis. **Inverse** Inverse psoriasis shows up as very red lesions in body folds, such as behind the knee, under the arm or in the groin. It may appear smooth and shiny. Many people have another type of psoriasis elsewhere on the body at the same time. **Pustular** Pustular [PUHS-choo-lar] psoriasis is characterized by white pustules blisters of noninfectious pus surrounded by red skin. The pus consists of white blood cells. It is not an infection, nor is it contagious. Pustular psoriasis can occur on any part of the body, but occurs most often on the hands or feet. **Erythrodermic** Erythrodermic [eh-REETH-ro-der-mik] psoriasis is a particularly severe form of psoriasis that leads to widespread, fiery redness over most of the body. It can cause severe itching and pain, and make the skin come off in sheets. It is rare, occurring in 3 percent of people who have psoriasis during their life time. It generally appears on people who have unstable plaque psoriasis. Individuals having an erythrodermic psoriasis flare should see a doctor immediately. This form of psoriasis can be life-threatening. Psoriasis can show up anywhere on the eyelids, ears, mouth and lips, skin folds, hands and feet, and nails. The skin at each of these sites is different and requires different treatments. Light therapy or topical treatments are often used when psoriasis is limited to a specific part of the body. However, doctors may prescribe oral or injectable drugs if the psoriasis is widespread or greatly affects your quality of life. Effective treatments are available, no matter where your psoriasis is located. **Scalp** Scalp psoriasis can be very mild, with slight, fine scaling. It can also be very severe with thick, crusted plaques covering the entire scalp. Psoriasis can extend beyond the hairline onto the forehead, the back of the neck and around the ears.

**Chapter 6 : Autoimmune diseases and pregnancy? - 35+ Moms | Forums | What to Expect**

*More than 80 diseases occur as a result of the immune system attacking the body's own organs, tissues, and cells. Some of the more common autoimmune diseases include type 1 diabetes, rheumatoid arthritis, systemic lupus erythematosus, and inflammatory bowel disease. Although the causes of many.*

Oh my goodness you really do have a lot going on. I will be praying for you throughout your pregnancy and beyond. I can relate, that the unknown of autoimmune disorders can be scary! I have a diagnosis is Lupus and ITP. No physical symptoms whatsoever but I do have some biochemical markers. My DD was born a month early due to my water being low and placenta not functioning properly at that time. Basically I just had more blood work and us. I had NST at 32 weeks twice a week. When they know you are "high risk" they take the necessary precautions. I feel very fortunate that so much can be done! My DD, even though she was a month early, was 6 lbs and very healthy. Wishing you all the best!!!! Also I went thru a treatment, Rituxan in which made my platelets increase to normal range and have been normal since. Also, biochemical markers have improved. Congrats on the pregnancy! Yes, the first month or so was pretty rough, but after that it was smooth sailing. But, about two months after delivery perfect baby girl, perfect delivery , it came back. My rheumatologist had warned me that sometimes it comes back worse, and that was my experience. Hate to be the bearer of bad news, but want to be honest. I hope you have a better experience than I did post-delivery. Thank you for the prayers and good wishes Good luck to you

## Chapter 7 : Women and Autoimmune Diseases

*Depleted glutathione levels are a critical factor in the initial onset of inflammatory and autoimmune diseases, including rheumatoid arthritis, lupus, Crohn's disease, multiple sclerosis, and psoriasis. 1 Without enough glutathione, your body cannot properly detox which means the toxins linger in your bloodstream or even get stored in fat.*

Direct evidence from transfer of disease-causing antibody or disease-causing T lymphocyte white blood cells  
Indirect evidence based on reproduction of the autoimmune disease in experimental animals  
Circumstantial evidence from clinical clues  
Genetic evidence suggesting "clustering" with other autoimmune diseases  
Signs and symptoms[ edit ]  
Autoimmune diseases have a wide variety of different effects. They do tend to have one of three characteristic pathological effects which characterize them as autoimmune diseases: When any one of these mechanisms fail, it is possible to have a reservoir of self-reactive cells that become functional within the immune system. The mechanisms of preventing self-reactive T cells from being created takes place through negative selection process within the thymus as the T cell is developing into a mature immune cell. Some infections, such as *Campylobacter jejuni* , have antigens that are similar but not identical to our own self-molecules. In this case, a normal immune response to C. A major understanding of the underlying pathophysiology of autoimmune diseases has been the application of genome wide association scans that have identified a degree of genetic sharing among the autoimmune diseases. There are many theories as to how an autoimmune disease state arises. Some common ones are listed below. However, it is impossible to induce tolerance immune unresponsiveness to all aspects of an autoantigen. This is because under normal physiologic conditions some regions of a self-antigen are not expressed at a sufficient level to induce tolerance. These poorly displayed areas of an antigen are called "cryptic determinants. The cross reactive immune response is responsible for the autoimmune disease state. Altered glycan theory[ edit ] According to this theory the effector function of the immune response is mediated by the glycans polysaccharides displayed by the cells and humoral components of the immune system. Individuals with autoimmunity have alterations in their glycosylation profile such that a proinflammatory immune response is favored. It is further hypothesized that individual autoimmune diseases will have unique glycan signatures. They reported US prevalence to be around 9 million, applying prevalence estimates for 24 diseases to a US population of million. The estimated community prevalence, which takes into account the observation that many people have more than one autoimmune disease, was 4. In chronic inflammatory diseases, neutrophils and other leukocytes are constitutively recruited by cytokines and chemokines , leading to tissue damage. Mitigation of inflammation by activation of anti-inflammatory genes and the suppression of inflammatory genes in immune cells is a promising therapeutic approach. In this theory was challenged by the discovery of a substance in the serum of patients with paroxysmal cold hemoglobinuria that reacted with red blood cells.

## Chapter 8 : Autoimmune disorders: MedlinePlus Medical Encyclopedia

*The American Autoimmune Related Diseases Association is dedicated to the eradication of autoimmune diseases and the alleviation of suffering and the socioeconomic impact of autoimmunity through fostering and facilitating collaboration in the areas of education, public awareness, research, and patient services in an effective, ethical and.*

## Chapter 9 : Autoimmune disease - Wikipedia

*Autoimmune Disease: A Disease Of The Immune System The first thing to understand about autoimmune diseases is that they are a disease of the immune system. If you have an autoimmune disease, somewhere along the way your immune system went rogue and began attacking your own tissues.*