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Extensive lichenoid type of Cutaneous sarcoidosis - A case report

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Abstract

Cutaneous manifestations of sarcoidosis are present in up to 25% of patients. The manifestatons can be very variable, making this disease one of the „great imitators" in dermatology. One of its clinical variants is lichenoid sarcoidosis, which is more commonly described in children. We report an adult patient with extensive lichenoid sarcoidosis with a personal history of treated pulmonary tuberculosis, without any evidence of actual pulmonary involvement with sarcoidosis. The main differential diagnosis of lichenoid sarcoidosis of lichen scrofulosorum, so thorough examinations, to exclude active tuberculosis, are essential in theses cases. The patient was succesfully treated with antimalarial drugs, and low-dose systemic corticosteroids.

Key words

Sarcoidosis; Lichenoid Eruptions; Skin Diseases; Signs and Symptoms; Antimalarials; Glucoocorticoids

Sarcoidosis is a multisystem granulomatous disease of unknown etiology, where pulmonary and lymph node involvement are the most frequent manifestations. Cutaneous involvement in sarcoidosis is reported in 9-37% of patients (1, 2). Being a multisystem disorder it may involve almost any organ. Clinical manifestations may be very variable, making cutaneous sarcoidosis one of the "great imitators" in dermatology.

The most common cutaneous manifestation of acute sarcoidosis is erythema nodosum, a non-specific manifestation, while in chronic disease there are various clinical forms, most of them specific, i. e. with noncaseating granulomas on histopathological analysis of tissue samples. There are classic papular, nodular and plaque forms of sarcoidosis, and in the largest series of cutaneous sarcoidosis reported so far, the most common types were lupus pernio, scar sarcoidosis and plaque type, while papular lesions were relatively uncommon (3). However, other authors describe papular eruptions on the periorbital region, face and neck, as the most frequent type (1, 4). Scar sarcoidosis is also common, while lupus pernio is one of the most distinctive forms of cutaneous sarcodosis. Lichenoid sarcoidosis is a subset of the papular form of the disease, but frequently with extensive skin involvement and lichenoid appearance of individual lesions (5, 6). It is estimated that lichenoid sarcoidosis accounts for 1-2% of all cases of cutaneous sarcoidosis (6). It is more commonly reported in children (7, 8). We report an adult patient with extensive lichenoid sarcoidosis, who was succesfully treated with antimalarial agents and low-dose corticosteroids.

Case report

A fifty-three-year-old man was admitted to our department due to multiple asymptomatic papules and hyperpigmented macules with scales on the trunk and extremities that appeared one year before. He was

treated with a topical corticosteroid, without effects. His personal history was remarkable for pulmonary tuberculosis that was treated several years before.

On examination, multiple livid and erythematous papules, 3-5 mm in diameter, with whitish scales, were located on the trunk and extremities, with confluence of lesions and formation of plaques and brownish macules with desquamation on the upper legs (Figures 1 and 2). The face and neck were spared of skin lesions. Laboratory analyses that were within physiologic range included: erythrocyte sedimentation rate (ESR), complete blood count (CBC), blood biochemistry (glucose, urea, creatinine, total bilirubin, total protein, albumin, cholesterol, triglycerides), liver enzymes (AST, ALT, LDH, γGT), immunoglobulines - IgG, IgA, IgM and routine urinalysis. Angiotensin-converting enzyme (ACE), serum calcium, calcium in 24 h-urine were also within normal limits. The intradermal tuberculin (PPD) test was negative. Skin biopsy was performed and on histopathologic analysis perivascular noncaseating epitheloid sarcoid granulomas were found within the dermis, while epidermal changes were minimal

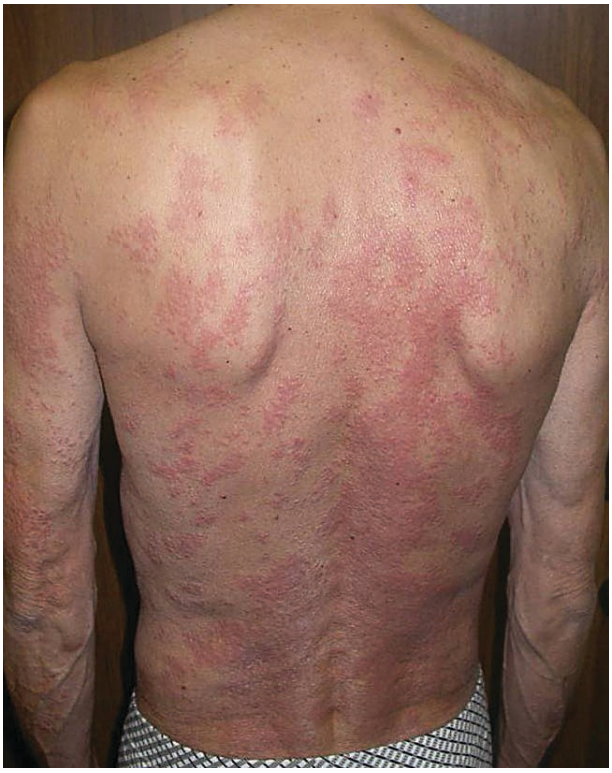

Figure 1. Multiple livid and erythematous papules with whitish scales on the trunk and upper limbs

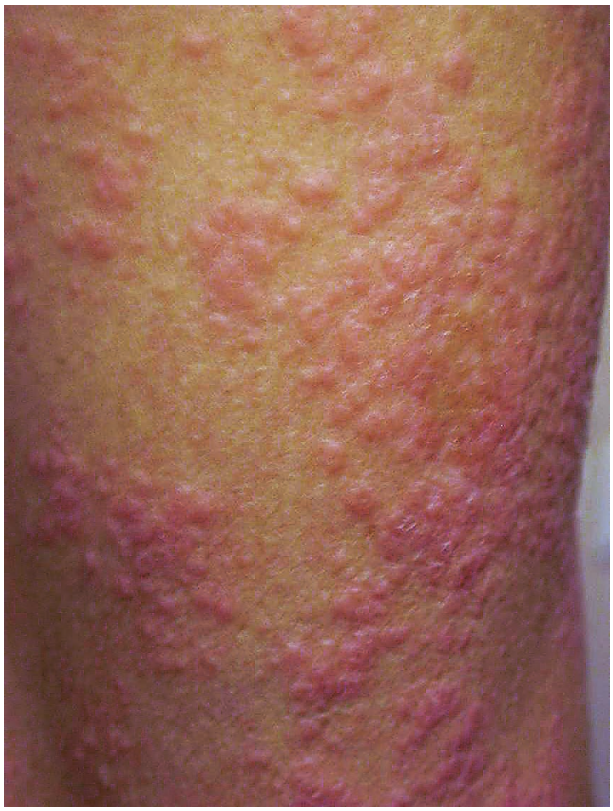

Figure 2. Multiple lichenoid papules, 3-5 mm in diameter

(Figure 3). Acid fast bacilli and fungal cultures were not found on histopathological examination. Direct immunofluorescence (DIF) test of skin lesions revealed rare, individual IgM colloid bodies in the papillary dermis and small discrete deposites of the discontinued C3 at the basement membrane zone. Abdominal ultrasound showed normal findings. Ophthalmologic findings were normal. Chest radiography revealed circular shadows on both sides corresponding to pleural calcification, further proven by CT. Spirogram and co-transfer factor were within normal limits. Multislice computed tomography (MSCT) of the chest revealed fibrotic (scar) changes in the upper lobes and perihilar dotted calcifications; in the apical segment of the right upper lobe, a stellate formation, 3x5 cm in size, was found corresponding to sarcoidosis or tuberculosis; also, mediastinal lymph nodes up to 1 cm in diameter were detected. Bronchoscopy was performed and the patient had no macroscopical lesions. On cytological examination of bronchial aspirate, cylindrical cells, lymphocytes and red blood cells were found. Histopathological findings of transbronchial biopsy

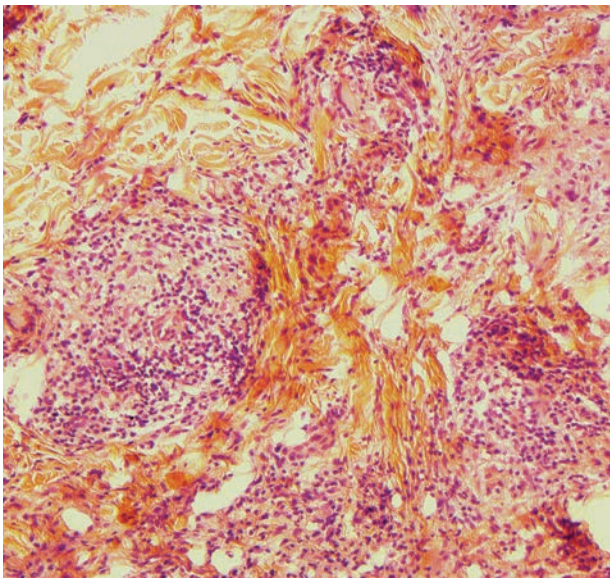

Figure 3. Perivascular noncaseating epitheloid sarcoid granulomas within the dermis (H&E, x10).

specimens revealed atypical bronchoalveolar epithelial hyperplasia, and chronic nonspecific bronchitis. On direct Ziehl-Neelsen stained samples acid-resistant bacilli were not found, and they were not cultivated on three consecutive cultivations on Loewenstein. PCR analysis for *Mycobacterium tuberculosis* in sputum sample was also negative, as well as three times repeated urine cultivation on Loewenstein. Consultant pulmonologist concluded that pulmonary findings were the consequence of scar changes due to previous pulmonary tuberculosis, and also that there was no pulmonary involvement with sarcoidsosis; follow-up was recommended, and treatment with corticosteroids was approved for cutaneous lesions. Treatment with oral chloroquine 250 mg/d, and depot betamethasone once every 3 weeks for three weeks time led to complete resolution of skin lesions.

Discussion

Sarcoidosis of the skin is found in 25% of patients with sarcoidosis. It manifests with various skin lesions, with papular and plaque lesions which are the most prevalent (1-4). Papular sarcoidosis is often manifested with discrete flesh-colored papules on the head and neck, particularly in the periorbital region. These papules eventually coalesce to form annular lesions or plaques. In our patient, however, the lesions were mainly distributed on the trunk and extremities, while the head and neck were spared. The individual lesions were erythematous papules with lichenoid appearance and whitish scales (Figure 1). These manifestations correspond to lichenoid sacroidosis, which is the subset of papular sarcoidosis, more frequently reported in children (5-8). The main differential diagnosis of lichenoid sarcoidosis is lichen scrofulosorum, which is found in tuberculosis. In our patient, tuberculosis was not evident, based on cultivation and direct examination of the sputum samples, histopathological analysis of the lung tissue, and negative PPD intradermal test. Also, histopathological analysis of perivascular noncaseating granulomas were found in our patient, in contrast to perifollicular granulomas that are found in lichen scrofulosorum.

The etiology of sarcoidosis has not been revealed yet. It is considered to be an immunological reaction to yet unidentified antigen/s, characterized with Th1 cellular immune reaction, increased B-cell activity, persistent macrophage activation, causing granuloma formation (1-4). Among the possible etiologic agents of sarcoidosis, *Mycobacterium tuberculosis*, *Propionibacterium acnes*, *Mycoplasma* species, *Borrelia burgdorferi*, viral infections (hepatitis C, herpes viruses and others) and certain metal and other particles (beryllium, zirconium, aluminium) were all examined, but the results of various studies are conflicting (1, 9-12). It is possible that in susecptible persons (i.e. with certain HLA alleles linked to sarcoidosis susceptibility) several different antigens lead to the development of sarcoidosis. Personal history of pulmonary tuberculosis, without evidence of active disease at the time of diagnosis of cutaneous sarcoidosis, points to the possible role of *Mycobacterium tuberculosis* antigens and their fragments in the pathogenesis of the disease in our patient. Mycobacterial DNA sequences were found in the skin, lymph nodes and lung tissue of sarcoidosis patients in some studies, but these results were not confirmed in other studies (1, 10). Also, based on bronchoalveolar lavage, histopathology analysis of the transbronchial biopsy, lung sarcoidosis was ruled out, and follow-up was recommended by a consultant pulmonologist.

Conclusion

In conclusion, lichenoid sarcoidosis with extensive involvement of the skin is not a common clinical

presentation. Skin biopsy and thorough laboratory analyses, radiological and histopathological examinations are necessary to rule out tuberculosis. The treatment can be successful by using antimalarials and low-dose systemic corticosteroids, as was proven in our patient. Other agents that can be used in the treatment of cutaneous sarcoidosis are: methotrexate, thalidomide, azathioprine, chlorambucil, minocycline, pentoxifylline, allopurinol, isotretinoin, etc. Also, infliximab, adalimumab, PUVA and UVA1 phototherapy were used in single case reports in recalcitrant cases (1).

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Ekstenzivna lihenoidna saroidoza kože

Sažetak

Uvod: Sarkoidoza se na koži javlja kod 25% obolelih, a njene različite kliničke manifestacije čine je jednim od najvećih imitatora u dermatologiji. Jedna od varijanti kutane sarkoidoze je lihenoidna, koja se češće opisuje kod dece. Prikazujemo odraslog pacijenta sa lihenoidnom varijantom kutane sarkoidoze, sa generalizovanim promenama, uspešno lečenim antimalarikom i niskim dozama sistemskih kortikosteroida.

Prikaz slučaja: Muškarac starosti 53 godine, pre 20 godina lečen zbog plućne tuberkuloze, hospitalizovan je zbog brojnih generalizovanih zagasito eritematoznih glatkih papula sa beličastom skvamom, lihenoidnog izgleda, grupisanih na trupu, gornjim i donjim ekstremiteta. Promene na koži su se javile godinu dana pre hospitalizacije, a lečen je bez uspeha topijskim kortikosteroidima. Histopatološkom analizom uzorka kože postavljena je dijagnoza kutane sarkoidoze. Na osnovu laboratorijskih analiza, radioloških pretraga i histopatološkim analizama transbronhijalne biopsije pluća, isključena je aktivna tuberkuloza pluća, a nije dokazana ni sarkoidoza pluća. Započeto je lečenje hlorokvinom 250 mg/d, uz depo preparat kortikosteroida, što je dovelo do povlačenja promena na koži.

Zaključak: Glavna diferencijalna dijagnoza lihenoidne sarkoidoze je *lichen scrofulosorum*, zbog čega je neophodno pre započinjanja lečenja isključiti tuberkuloznu etiologiju promena na koži. Antimalarici sa niskim dozama ili bez niskih doza sistemskih kortikosteroida predstavljaju terapiju prvog izbora kod generalizovanih promena u kutanoj sarkoidozi.

Ključne reči

Sarkoidoza; Lihenoidne erupcije; Bolesti kože; Znaci i simptomi; Antimalarici; Glukokotikoidi