Dia 3. Otras enfermedades inflamatorias

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Iniciativa científica de:

OTHER DISEASES

8 remarkable topics

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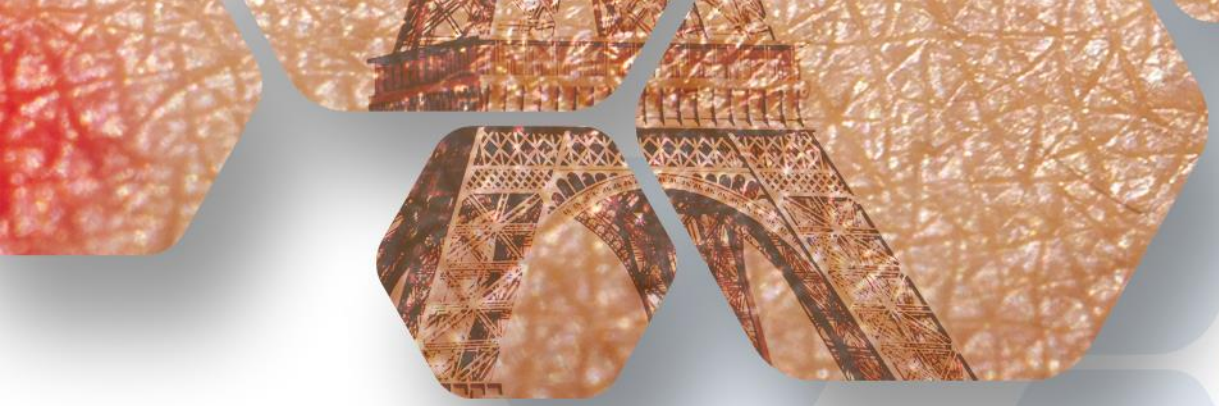


1 NEW TECHNOLOGIES AND PATIENT AWARENESS

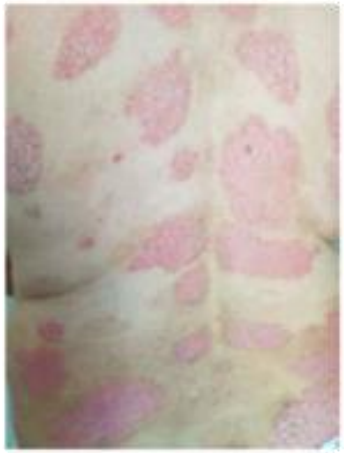
Iniciativa científica de:

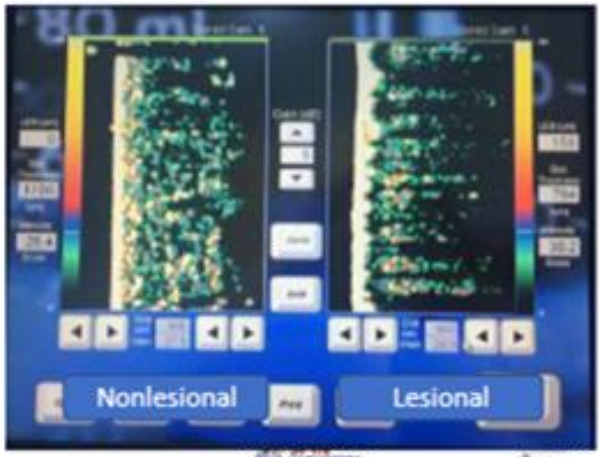
Potential of high-frequency ultrasonography in monitoring psoriasis

Andreea Nicoleta Boca[1], Mihaela Cristina Somlea[2], Roxana Flavia Ilieș[3]

Psoriasis
- ✓ Chronic inflammatory condition
- ✓ Monitoring of psoriasis plaques

High frequency ultrasonography (HF-USG)
- ✓ Non-invasive
- ✓ Easy to use
- ✓ Means to quantify inflammation, thickness, echogenicity





Case presentation
- ✓ 45 year old female patient, rural area
- ✓ severe psoriasis (PASI 36.2)
- ✓ psoriasis of the scalp
- ✓ arthropathic psoriasis
- ✓ comorbidities- type I obesity
- ✓ inadequate response to previous treatments:
  - ✓ Methotrexate(15mg/w), Sulfasalazine(2g/d), Cyclosporine(250mg/d)
  - ✓ Infliximab (400mg/2m), Adalimumab (40mg/2w), Etanercept (50mg/w)
- ✓ Imagistic assessment during washout period
  - ✓ HF-USG using DermaLab Skin Analysis technology, 2MHz transductor
  - ✓ Nonlesional and lesional analysis
- ✓ Pending treatment with Ixekizumab

Conclusions
- ✓ LEB-ultrasonographic parameter for quantifying inflammation
  - ✓ LEB of nonlesional skin 0 um vs lesional skin 158 um
- ✓ Skin thickness may quantify skin atrophy induced by topical corticoids
  - ✓ Nonlesional thickness 1106 um vs lesional thickness 764 um
- ✓ HF-USG may prove a valuable tool in evaluating psoriasis plaques

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The Role of Neuroimmune Interaction in Pathophysiology of Granulomatous Rosacea

Introduction

Rosacea is a chronic inflammatory disease that manifests various clinical features such as erythem, papule, pustule, and telangiectasia which repeats deterioration and relief. According to the grading system announced by the National Rosacea Society (NRS) Expert Committee in 2002, the subtypes of rosacea are divided by clinical features as erythematotelangiectatic rosacea (ETR), papulopustular rosacea (PPR), phymatous rosacea, ocular rosacea, and one variant as granulomatous rosacea (GR). Granulomatous rosacea has been categorized as a separate disease variant principally because of its unique histopathologic findings, although it expresses different clinical presentations. Despite the active research on the pathogenesis of the rosacea, the correlation of the various cells involved in the immune system, fibroblasts, blood vessels, and lymphatics by each subtypes of rosacea is not yet known.
In this study, we investigated the difference in the expression rate of Toll-like receptor 2 (TLR2), neuromediators, and mast cells in the ETR, GR, and normal skin, and examined their role in the etiology of each subtype.

Materials and methods

From January 2007 to December 2015, the patients who visited the Department of Dermatology, Hallym University Sacred Heart Hospital were enrolled. 12 patients with ETR and 12 patients with GR were included, and 11 patients as control group were included. Rosacea was diagnosed according to clinical features and histologic findings. Clinical and epidemiological information was evaluated by electronic medical records (EMR). In this study, the authors investigated the diagnosis, classification, and severity criteria according to the National Rosacea Society and classified only one subtype as the most prominent when two or more subtypes were satisfying in one patient.

Results

1. Demographic data

Groups	Patient number	Mean duration (months)	Sex ratio (F/M)	Age±standard deviation
GR	11	9.2	11/0	44.9±5.3
ETR	12	8.2	11/1	49.0±10.7
Control	11		11/0	43.2±21.5
Total	34		33/1	45.8±13.9

Table 1. Demographic data of enrolled patients
*GR: Granulomatous rosacea ETR: Erythematelagiectatic rosacea

2. Quantitative analysis of immunohistochemical staining

Table 2 and figure 1 summarizes the mean ± standard deviation (SD) of the quantitative number of pixels analyzed for immunohistochemical staining for TLR2, MC, and NF for each groups. MC expression in GR group was significantly higher than ETR and control group (p value=0.001, 0.013, respectively).

	GR	ETR	Control
TLR2	57.1±116.7	85.7±76.3	7.1±30.1
MC	107.8±59.4	61.8±55.6	55.1±16.9
NF	5.0±1.2	6.5±2.1	4.0±1.4

Table 2. Quantitative analysis of immunohistochemical staining (number of pixels per image)
* TLR2: Toll-like receptor 2 MC: Mast cell trypatase NF: Neurofilament

Expression of MCs in the GR group was significantly higher than that in the ETR and control groups (p value = 0.001 and 0.013, respectively). In addition, the expression of TLR2 in the GR group was significantly higher than that in the control group (p-value = 0.04), but there was no significant difference in expression of TLR2 between GR and ETR groups (p-value = 0.519). There was no significant difference between the NF expressions in all the groups (GR group vs control group: p-value = 0.231, GR group vs ETR group: p-value = 0.324). The expression of TLR2 in the ETR group was significantly higher than that of the control group (p-value = 0.04), but the expression of MCs and NFs in the ETR group showed no difference compared to the control group (p-value = 0.217 and 0.254, respectively).

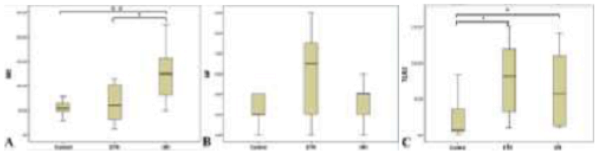

Figure 1. Quantitative analysis of immunohistochemical staining (number of pixels per image). A : Quantitative analysis of mast cell shows significant difference between ETR group and GR group(*), and between control group and GR group(**). B : Quantitative analysis of neurofilament shows no significant difference between each groups. C : Quantitative analysis of TLR2 shows significant difference between control group and ETR group(*), and between control group and GR group(*). The boxes represent the interquartile range, and the bars inside the box indicate the median value. The end of the whiskers represents the lowest and highest data. *p<.05, **p<.001

Discussion

According to our results, the expression of MC was higher in GR and ETR than normal, and GR showed higher expression of MC than ETR. These results suggest that GR occurs a later stage than the other subtypes and may occur when neurogenic inflammation aggravates. In our study, the mean duration of GR (9.2 months) was longer than that of ETR (8.2 months), even though the difference between each of the groups was not statistically significant. Further studies showing the correlation between neurogenic inflammation aggravation and GR are needed to confirm this suggestion.
Our results also showed the increase of TLR2 expression in the skin of patients with granulomatous rosacea, in comparison with healthy skin. Increased TLR2 expression may be responsible for abnormal expression of KLK5 and cathelicidin, both of which are important in rosacea. In this study, an increase in TLR2 expression was observed in GR, confirming the involvement of the KLK5-cathelicidin cascade in the pathogenesis of GR. In this study, immunohistochemistry of NFs showed the highest NF expression in the ETR subtype; additionally, the expression of NFs in the GR group was higher than that in the control group, but this difference was not statistically significant. This might be correlated with the clinical symptoms of the ETR subtype, in which neurogenic sensations such as "pricking, burning pain" are prominent; the GR subtype exhibits a wide spectrum of clinical manifestations.
This study has a few limitations: the number of cases per group, "n", is limited, and a large-scale immunohistochemistry study is needed to confirm the results of this paper regarding the pathophysiology of GR. In addition, the concentration of the released neuromediators is not high enough to be detected via immunohistochemistry, and quantitative real-time RT-PCR, which verifies the level of RNA and its respective proteins, will be additionally needed.

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(TLR2), neuromediators, and mast cells in the ETR, GR, and normal skin, and examined their role in the etiology of each subtype.

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Rol de las catelicidinas y de KLK5 ?

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The Role and Relationship of Plasma D-dimer Level and Autologous Serum Skin Test in the Chronic Spontaneous Urticaria

Introduction

Autologous serum skin test(ASST) is thought to identify chronic urticaria(CU) patients with an autoimmune/autoreactive disease. It has been reported that the severity of chronic urticaria(CU) may be associated with d-dimer, and patients with CU often have other autoimmune disorders, including autoimmune thyroid disease. The aim of this study was to evaluate whether the d-dimer, total IgE, and autoimmune markers such as anti-TPO and anti-TG is elevated in ASST-positive CU patients compared with ASST-negative patients, and whether these laboratory findings are related to severity of CU.

Materials and methods

A total of 54 adults, diagnosed as chronic urticria, were enrolled to the study prospectively. D-dimer, autoimmune markers(anti-TG, anti-TPO), total IgE, thyroid hormone levels, and uticaria activitiy score(UAS) were measured. After 6months follow-up, improvement was classified as 2 groups. Improvement groups included remission and well-controlled. No-improvement group included partly controlled and uncontrolled.

Results

1. Demographic data

A total of 54 adults with CU were recruited(16 ASST positive, 38 ASST negative. The demographic data according to each group is shown in Table 1.

	ASST +	ASST -	
Sex			
Male, n(%)	8(50%)	10(26.3%)	
Female, n(%)	8(50%)	28(73.7%)	
Age, years(±SD)	33.8(±14)	40.5(±13.1)	
Laboratory findings			
D-dimer(μg/mL)	0.34(±0.17)	0.43(±0.55)	P=0.055
IgE(IU/mL)	167.87(±113.32)	217.69(±202.81)	P=0.361
T3(ng/dL)	103.94(±24.6)	110.97(±20.63)	P=0.286
free T4(ng/dL)	1.26(±0.13)	1.12(±0.17)	P=0.506
TSH(μIU/mL)	1.75(±1.08)	2.19(±1.47)	P=0.292
Anti-TPO(IU/mL)	36(±73.55)	51.6(±138.11)	P=0.672
Anti-TG(IU/mL)	34.61(±38.9)	62.65(±113.47)	P=0.397
UAS*	18.13(±16.63)	8.16(±12.63)	P=0.021

Table 1. Demographic data, laboratory findings, and UAS according to ASST response.
*Statistically signifcnat (P≤0.05)

2. **Laboratory findings and UAS scoring**

Serum d-dimer level did not show significant difference between ASST positive and ASST negative CU patients. [0.34μg/mL(0.17) vs. 0.42μg/mL(0.55); P=0.055] Total IgE did not show difference according to ASST response. [167.87 IU/mL(113.32) vs. 217.69IU/mL (202.81); P=0.361] Thyroid function test and autoimmune markers such as anti-TPO and anti-TG did not show difference according to ASST response. UAS was high in ASST positive CU patients [18.13(16.13)] compared to negative CU patients [8.16(12.63)](Table 1).

	D-dimer level		
	Raised(n=8)	Normal(n=46)	*P*
Disease severity(UAS)	20.5	12.1	0.01

Table 2. UAS according to serum d-dimer level of the patients (UAS=Urticaria activity score)

CU patients with elevated d-dimer level showed high UAS compared to normal d-dimer level group (Table 2). Total IgE was related to UAS only in CU patients with ASST negative. However, other laboratory markers such as anti-TPO and anti-TG were not related to UAS.

3. **Response to treatment**

After 6 months, at the last follow-up visit, patients were evaluated for improvement according to ASST positive and negative group. Improved patients were 13(81.3%) in ASST positive group, and 12(31.6%) in ASST negative group. Prognosis was better in the ASST positive group [P=0.01, OR=7.6] (Table 3).

Treatment outcome	ASST +	ASST −	Chi-squre, *P
follow-up after 6 months anti-histamine treatment	n=16(%)	n=38(%)	
Improved	13(81.3%)	12(31.6%)	2.2, *P=0.01
Remission	1	1	
Well controlled	12	11	
No improved	2(12.5%)	24(63.2%)	
Partly controlled	1	16	
Not controlled	1	8	
Follow up loss	1	2	

Table 3. Response to treatment and follow-up in autologous serum skin test-positive and negative patients (ASST=Autologous serum skin test)
*P≤0.05=Statistically significant. Chi-square test was performed.

Discussion

In this study, chronic urticaria patients were analyzed according to ASST positive and negative groups for laboratory findings, and correlation with chronic urticaria severity and laboratory findings. Laboratory findings such as serum d-dimer, total IgE, TFT, and autoimmune markers(anti-TPO, anti-TG) level are not linked to ASST response. This suggests that the serum autoantibody and coagulation pathway are related to the pathogenesis of chronic urticaria, but there is no direct correlation between the two mechanisms. ASST positive group showed high UAS compared to negative group, but showed better response to treatment. This is because the serum factor due to ASST reactivity probably releases histamine and vasodilator, which may be more severe at the beginning but may be a better response to antihistamine treatment. It is suggested that the proportion of histamine in the pathogenesis of patients with ASST negative is smaller and the role of other inflammatory markers may be more important. UAS was high in CU patients with elevated d-dimer level, and total IgE level was related to UAS in ASST negative group. This is consistent with previous reports that the severity of disease is related to the activation of the coagulation pathway, and d-dimer could be a predicotr of disease severity. It also suggests that total IgE may play a more important role in the ASST negative group. Therefore, considering the above results, we should consider ASST reactivity, d-dimer level and total IgE as predictors of disease severity.

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Lupus pernio with 5 years of decreased visual acuity

Abdelli Wissal, Rebhi Faten, Ben Slimene Malek, Youssef Soumaya, Doss Nejib, jabber Kahena, Dhaoui Mohamed Raouf
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BACKGROUND

- Lupus pernio: cutaneous manifestation of chronic multisystem sarcoidosis.
- Often associated with pulmonary involvement and involvement of oral and nasopharyngeal mucosa.
- Ocular sarcoidosis:10% to 25% of cases. It can involve any part of the eye and its adnexal tissues.
- Damage of optic nerve in uncommon

OBSERVATI ON

- A 56-year-old woman with 5-year history of gradual loss of vision and nasal obstruction presented with an infiltrated purple-red plaque on the tip of the nose.
- Skin biopsy: non caseating granulomatous dermatitis.
- QuantiFERON-TB Gold :negative.
- Nasofibroscopy: granulomatous aspect of the entire mucosa of the nasal fossae and the cavum.
- Ophtalmologcal examination: Visual acuities: 2/10 on the right and 3/10 on the left, dyschromatopsia in the yellow-blue axis, normal dilated fundus examination, temporal amputation of the right eye in the visual field.
- Orbito-cerebral magnetic resonance imaging: abnormal T2 hyperintense signal in right intraorbital optic nerve with an hypotrophic aspect.

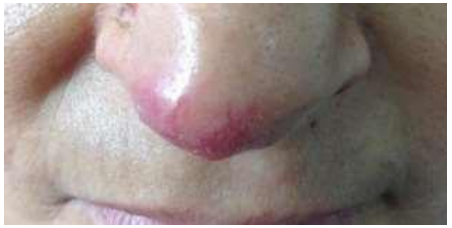
→ Right optic neuropathy

- Eectrocardiogram/ echocardiogram: normal.
- Computed tomography: swollen bilateral mediastino hilar lymph nodes with non specific lung nodules and micronodules.
- Bronchoscopy: aspirate showed numerous non-necrotizing granulomas.
- Laboratory evaluation: borderline elevation of erythrocyte sedimentation rate and angiotensin-converting enzyme titers

→ Lupus pernio with mediastinal, pulmonary, ORL, and ophtalmic involvement

DI SCUSSI ON

- Lupus pernio is typically described as purplish swelling, with shiny skin changes on the nose, cheeks, lips, or ears.
- Associated with frequent involvement of the lungs and the upper respiratory tract as in our case.
- Involvement of the optic nerve: uncommon
- The most likely mechanism in our case: granulomatous micro-infiltration of the optic nerve.



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Atypical pityriasis rosea presenting with vesicular lesions

ALLEN PESSOA, VIVIANE MAIOLINI, DANIEL OBADIA, SUELI CARNEIRO, ARLES BROTAS - STATE UNIVERSITY OF RIO DE JANEIRO

BACKGROUND

Pityriasis rosea (PR), is a relatively common benign and self-limited papulosquamous eruption, affecting the trunk and limbs, usually seen in the 10-35-year age group. The etiology remains unknown, although an association with human herpes viruses (HHV) 6 and 7 has been reported.

CASE REPORT

A 53-year-old dark-skinned woman had a sudden eruption of pruritic lesions, preceded 7 days previously by malaise. Examination revealed hundreds of discrete scaly patches on her trunk and four extremities, extending to the forearms and legs. The rash of the trunk showed peripheral collarette scaling and orientation along lines of skin cleavage, and there was the herald patch. In addition, there were many vesicles on the backs of the hands and feet, palmoplantar and on the wrists and ankles. Histopathology revealed psoriasiform and spongiotic dermatites with mounds of parakeratosis and red cell extravasation (patch), and bullous acute spongiotic dermatites with perivascular lymphocites (vesicle). We prescribed mometasone furoate cream with moisturizer, and oral hydroxyzine at night. Complete symptomatic remission was seen after 10 weeks.

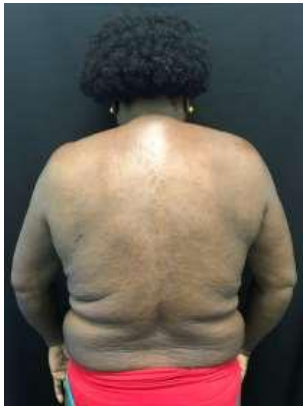

Figure 1. Scaly patches on trunk and orientation along lines of skin cleavage.

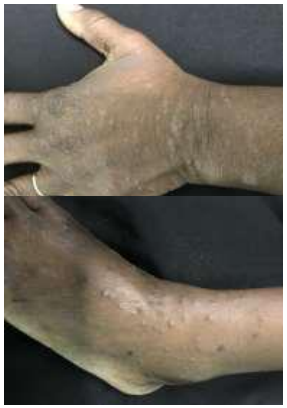

Figure 2. Vesicles on the backs of the hands and feet.

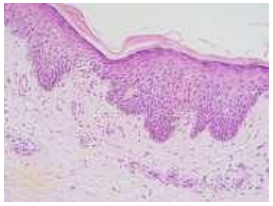

Figure 3. Histopathology (patch).

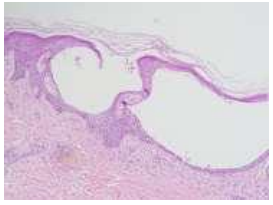

Figure 4. Histopathology (vesicle).

Figure 5. At dermoscopy, it was possible to evaluate the vesicle lesions in greater detail.

DISCUSSION

Atypical case of PR (20% of the patients) are fairly common and less readily recognized than typical eruptions and may pose a diagnostic challenge. These presentations can be differentiated by size, distribution, sites involved, severities, cause of the lesions and morphology. In this reported case, atypical vesicular form on the limbs coexisted with the classic form. There was an intense pruritus, not common in PR. Severe itch has been described in patients with dark skin types. In our case, history, clinical evolution, histopathology evidence of an exuberant and atypical PR.

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HISTOLOGICAL ANALYSIS OF HS PATIENTS

INTRODUCTION

Suppurative hidradenitis is a disease with a high impact on the social and work life of the patients. The inflammatory mechanisms of the disease are partially known.

OBJECTIVE

To characterize the components of the dermal inflammatory infiltrate of hidradenitis.

METHODS

Prospective, descriptive and quasi-experimental study of surgical pieces of patients with hidradentitis suppurativa Hurley II / III. The tissues removed during surgery were submitted to histopathological examination, with longitudinal and transverse sections. The comparison of histopathological characteristics was done by the Mann-Whitney test and chi-square test, at a significance level of 95%.

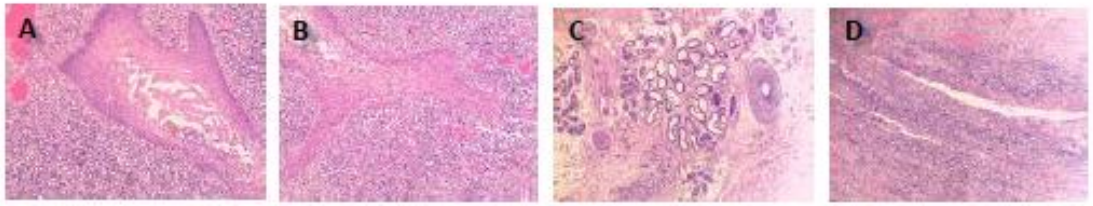
RESULTS

Surgical specimens from 26 patients were analyzed. All of them, less two exhibited some degree of inflammation. The two patients had later cicatricial lesions. The infiltrate was predominantly superficial and deep, perivascular and perifollicular in more than 80% of the cases, forming granulation tissue in 62.5% of the samples. No infiltrate was detected around apocrine glands. The predominance of mononuclear cells, was observed in 91.6% of these, with a predominance of lymphocytes and plasma cells (75% of cases). Eosinophils were detected in 33% and neutrophils in 71%. Abscess formation was observed in 16% of the patients. Scar-like fibrosis was present in all, often in the deep dermis and subcutaneous tissue. Follicles were not found in four patients, in whom the dermis was extensively occupied by cicatricial fibrosis. In 72% of the patients the follicles were filled by keratin and with basal layer lesion; in 50%, there were wall rupture and neutrophil exocytosis. Cocci and bacilli within the follicles were observed in 22.7% and fistulous pathways in 42% of patients.

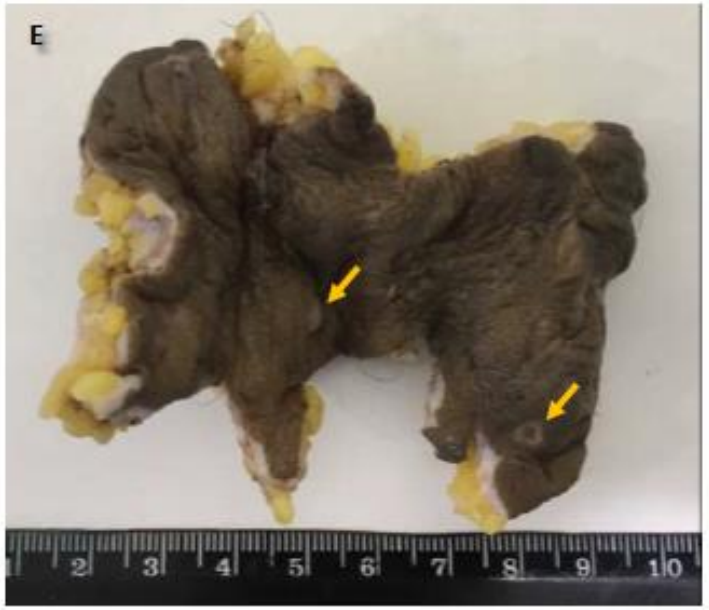
HISTOLOGICAL ANALYSIS OF HS PATIENTS

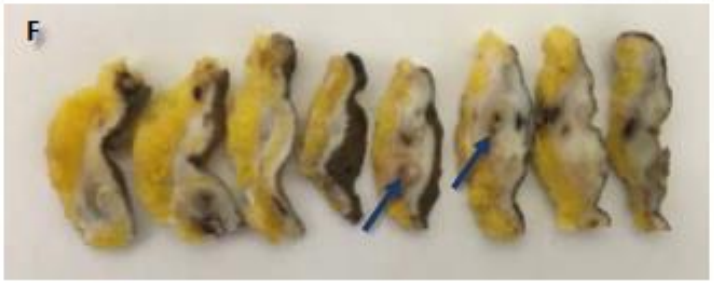
CONCLUSIONS

The histopathological findings reinforce that the structure primarily involved in hidradenite would be the hair follicle and not the apocrine glands, as previously described. The high prevalence and intensity of acute and chronic inflammatory infiltrates, as well as the difficulty of resolution with the use of anti-inflammatories and even immunomodulatory antibiotics, suggest that changes in the immune system may be responsible for the maintenance of this inflammatory reaction, even after destruction of the follicle.



A: Folliculitis with a surrounding predominant lymphoplasmacytic infiltrate.
B: Folliculitis showing spongiosis, neutrophils and lymphocytes exocytosis.
C: Normal apocrine glands.
D: Granulation tissue simulating sinus tracts.
E / F: Surgical specimen from armpit:
yellow arrows – drainage points filled by granulation tissue;
blue arrows – sinus tract-like structures formed by granulation tissue, without cyst formation.





6th Congress of the Skin Inflammation & Psoriasis International Network

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Puppy POWER

Once anathema, it now seems that a 'dirty' environment can enrich a baby's microbiome and lessen her or his likelihood of developing everything from obesity to asthma. Again, it seems that we can rely on man's best friend to help us out.

Babies who share their homes with a dog are much less likely to grow up into adults with allergies than those who don't.

MICROBIOME

Puppy power

Gupta S; Nature 2017: 543: 48-49

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