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Estudo VENUS: Visão da HidradENite SupUrativa peloS Médicos de Família Portugueses

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RESUMO – **Introdução**: A hidradenite supurativa (HS) é uma dermatose crónica com um grande impacto na qualidade de vida dos doentes e um atraso diagnóstico estimado em 7 anos. O médico de medicina geral e familiar (MGF) é geralmente o primeiro médico a quem o doente com HS recorre. O objetivo principal deste estudo é descrever o conhecimento e a abordagem clínica da HS pelos MGF em Portugal. **Material e Métodos**: Foi realizado um estudo transversal, com base nas respostas dos MGF a um questionário elaborado para avaliar seus conhecimentos sobre HS. **Resultados**: Cento e oitenta e setenta questionários foram considerados válidos para inclusão no estudo. A maioria (97,3%) dos MGF identificou corretamente a HS como o diagnóstico mais provável quando confrontado com uma história clínica típica da doença, e 84,5% associaram a HS a cronicidade. A maioria (84,0%) dos clínicos referencia esses pacientes, principalmente à Dermatologia (89,3%). A maioria dos médicos também considerou que uma abordagem cirúrgica pode não ser curativa (94,1%) e apenas 15,0% considerarou que agentes biológicos podem ter indicação terapêutica. Compararam-se as respostas de 2 grupos: grupo A, n = 100, com <5 anos de prática clínica e grupo B, n = 84, com ≥5 anos. O grupo A associou mais HS ao tabagismo e obesidade do que o grupo B (p = 0,013 e p = 0,006, respetivamente). Uma abordagem multidisciplinar também foi mais frequentemente selecionada pelo grupo A (p = 0,004). **Conclusão**: Este estudo piloto mostra que a visão dos MGF portugueses sobre HS pode ser melhorada. Existem diferenças significativas no que se refere ao conhecimento de HS entre os médicos com menos de 5 anos de prática clínica e os mais experientes. Este estudo pode ajudar a direcionar futuras ações educativas.
PALAVRAS-CHAVE – Clínicos Gerais; Hidradenite Supurativa; Inquéritos e Questionários; Padrões de Prática Médica.

VENUS Study: ViEw of HidradeNitis SuppUrativa by PortugueSe General Practitioners

ABSTRACT – ***Introduction:*** *Hidradenitis suppurativa (HS) is a chronic dermatosis with a large impact in patients' quality of life and an estimated 7-year delay in diagnosis. The General Practitioner (GP) is usually the first doctor to assist the HS patient. The primary objective of this study is to describe the knowledge and clinical approach of HS by GPs.* ***Material and Methods:*** *A cross-sectional study was conducted, based on the GPs answers to a questionnaire designed to evaluate their knowledge on HS.* ***Results:*** *One hundred eighty seven questionnaires were considered valid for inclusion in the study. The majority (97.3%) of GPs correctly identified HS as the most likely diagnosis when confronted with a typical clinical history of the disease, and 84.5% associated HS with chronicity. The majority (84.0%) of GPs refers these patients, mostly to Dermatology (89.3%). The majority of GPs also considered that a surgical approach may not be curative (94.1%) and 15.0% considered that biological agents might be indicated. We compared the answers of 2 groups: group A, n=100, with <5 years of clinical practice and group B, n=84, with ≥5 years. Group A associated more HS with tobacco use and obesity than group B (p=0.013 and p=0.006, respectively). A multidisciplinary approach was also more frequently selected by group A (p=0.004).* ***Conclusion:*** *This pilot study shows that the view of Portuguese GPs about HS can be improved. There are significant differences concerning knowledge on HS between GPs with less than 5 years of clinical practice and the more experienced ones. This study can help to direct differential future educational actions.*
KEYWORDS – *General Practitioners; Hidradenitis Suppurativa; Practice Patterns, Physicians; Surveys and Questionnaires.*

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INTRODUCTION

Hidradenitis suppurativa (HS) is a chronic inflammatory skin disease usually presenting on the second to fourth decades of life with recurrent inflammatory painful subcutaneous nodules located in intertriginous areas, i.e., axilla, inguinal folds, anogenital and sub-mammary areas. The nodules can suppurate, drain and form fistulas and scars. HS pathophysiology remains to be fully understood but it is regarded as a follicular-based immune-mediated disease. The initial event is thought to be follicular occlusion, with cyst formation and intense inflammatory response when it ruptures.[1]

There is a well-known association of HS with obesity and smoking, as well as metabolic syndrome, and a nearly doubled risk of cardiovascular associated-death has been found in HS patients when compared to controls.[2] Additionally, the coexistence of other inflammatory diseases such as inflammatory bowel disease, psoriasis, or spondyloarthritis has been described.[3-5]

HS greatly impacts self-esteem and patients' quality of life (QoL), having more impact than other dermatological conditions.[6] Patients report QoL impairment due to chronicity, recurrence and pain resulting from skin inflammation which can also lead to scarring and disfigurement. Moreover, the lesions affect intimate body regions, with great impact in patients' social and private life.[7,8] In line with this, patients with HS have a high psychiatric disease burden[9] and a higher risk of depression and suicide.[10-12]

Proper disease recognition and early diagnosis are of paramount importance since they will allow for early treatment, which may delay disease progression, namely fibrosis and scar tissue formation. Additionally, treatment costs and complexity increase with disease severity, and early diagnosis of HS is also considered to be cost-effective.[13]

In the Portuguese National Healthcare System, the general practitioner (GP) acts as a gatekeeper, being the first physician that usually observes patients. Whenever needed, GPs refer the patient to other medical specialties for specialized clinical management. Few studies have evaluated the GPs' level of knowledge on HS. Benhadou et al have shown that Belgian and Danish GPs need more training on HS,[14] but no such data is available concerning the Portuguese reality. Therefore, the aim of this study was to describe the knowledge on and clinical approach of HS by Portuguese GPs.

MATERIAL AND METHODS

Data collection

A cross-sectional study was conducted, based on a questionnaire specifically designed to evaluate GPs general knowledge regarding HS. This questionnaire was translated and adapted from Benhadou *et al*.[14] A total of sixteen questions, five demographic and eleven concerning the disease, with a first question to choose the correct diagnosis based on the clinical history of a typical case, and then diagnosis, pathophysiology, prevalence and clinical approach were answered by the participating GPs – Table 1. Questionnaires

Tabe 1 - Questionnaire given to Portuguese General Practitioners (adapted from[14]).

QUESTION 1	Gender: M/F
QUESTION 2	Year of birth
QUESTION 3	Year of end of medical studies
QUESTION 4	Year of start of practicing medicine
QUESTION 5	How many patients do you have per week a. Less than 50 b. Between 51 and 100 c. Between 101 and 200 d. More than 200
QUESTION 6	Mrs. DS., 39 years old, has had chronic recurrent abcesses for the last 20 years in the right and left axilla. The lesions are painful and suppurative (with occasional elimination of purulent exsudate). Over the years, some lesions originated hypertrophic scars. On the last year, the patient has developed similar lesions, bilaterally, in the groins. Which of the following is the most likely diagnosis? a. Furunculosis b. Cutaneous tuberculosis c. Lymphogranuloma venereum d. Hidradenitis suppurativa e. Epidermic infected cysts f. Other bacterial infection
QUESTION 7	The diagnosis of hidradenitis suppurativa is mainly: a. Clinical b. Analytical (microbiology) c. Histological d. Imagiological (ultrasound)
QUESTION 8	Choose the word(s) associated with hidradenitis suppurativa: a. Chronicity b. Inflammation c. Infection d. Poor hygiene e. Furunculosis and abcesses f. Handicap g. Use of intravenous drugs h. Antibiotics i. Surgery j. Lasertherapy k. Biological therapy l. Tobacco use m. Obesity
QUESTION 9	What is the prevalence of hidradenitis suppurativa in the general population? a. 1/100 b. 1/1,000 c. 1/100,000 d. 1/500
QUESTION 10	How many patients suffering from hidradenitis suppurativa have you encountered in your career? a. 0 b. 1-5 c. 6-10 d. 11-20 e. >20
QUESTION 11	Do you manage hidradenitis suppurativa's patients yourself? a. Yes b. No

QUESTION 12	When you decide to refer hidradenitis suppurativa's patients to other specialists, which specialty do you consider to be better prepared to manage this disease? a. Dermatology b. General Surgery c. Plastic and Reconstructive Surgery d. Internal Medicine e. Specialty in infectious diseases f. Other. Which one?
QUESTION 13	If you refer to the case in question 6, and assuming this was your fist appointment with this patient, what course of action would you take? a. Immediate referral plus immediate treatment b. Would try to treat without referring c. Would neither refer nor treat d. Immediate referral without initiating treatment
Question 14	If you refer to the case in question 6, which treatment would you recommend? a. Topical disinfection and daily bandages b. Topical antibiotics c. Systemic antibiotics d. Surgical excision e. Surgical incision f. Immunosuppressive therapy g. Would not initiate treatment
Question 15	Do you consider that a surgical approach guarantees the cure of hidradenitis suppurativa? a. Yes b. No
Question 16	Do you think that the management of hidradenitis suppurativa is: a. Easy b. Complicated c. May need a multidisciplinary approach

were handed to GPs that agreed to participate in the study, during the "9os Encontros em Dermatologia e Dermocosmética" (Lisbon) and "Atualização em Medicina Geral e Familiar AAP 2017" (Coimbra), when both meetings took place, in 2017. The former meeting was about General Dermatology and included a lecture about HS; the latter concerned several medical specialties and had a lecture about HS. The questionnaires were answered individually and collected by the investigators before the HS lecture was given. The investigators collected a total of 209 questionnaires, of which 187 seven questionnaires (89.5%) were considered valid for inclusion in the study.

Statistical analysis

Non-parametric statistical methods were used. Values are presented as median (IQR) or n (%), as appropriate. The χ^2 test was used for comparison of proportions. The Mann-Whitney test was used to compare two groups of GPs: those with <5 years of clinical practice and those with ≥5 years of clinical practice. The Bonferroni correction was applied whenever necessary. Data analysis was performed using SPSSv20 (IBM, USA). Tests were considered significant at $\alpha=0.05$ significance level (two-sided).

RESULTS

Demographic characteristics of the whole population sample and subgroups by years of clinical practice using a cut-off of 5 years

One hundred and eighty-seven questionnaires were considered valid to be included in the study. Table 2 describes the demographic characteristics of the studied population sample. There were no gender differences. The fact that age and years of practice were higher in the group with ≥5 years of practice is only a confirmatory internal variable. The observation that GPs with more years of practice see more patients per week was also to be expected.

Participant's responses to questionnaire by years of clinical practice using a cut-off of 5 years

There were a few differences when comparing GPs with less than 5 years of clinical practice with GPs with ≥5 years of clinical practice – Table 3. Of notice, younger GPs associated more tobacco use and obesity to HS. More experienced GPs manage HS patients by themselves more frequently.

Table 2 - Demographic characteristics of the whole population sample and by years of clinical practice using a cut-off of 5 years.

Variable	Whole population sample	<5 years of practice	≥5 years of practice	*p*-value*
# participants	187	100	84	
Gender, female	143 (76.5)	74 (74.0)	66 (78.6)	0.469
Age, years	31.0 (12.0)	28.0 (3.0)	42.0 (25.0)	<0.001
Years of practice	4.0 (13.0)	2.0 (2.0)	15.0 (25.0)	<0.001
# patients/week				<0.001
<50	41 (21.9)	31 (31.0)	9 (10.7)	
51-100	67 (35.8)	44 (44.0)	23 (27.4)	
101-200	64 (34.2)	21 (21.0)	41 (48.8)	
>200	15 (8.0)	4 (4.0)	11 (13.1)	

*p-value pertains to comparisons between years of clinical practice. Median (IQR) presented for continuous variables; n (%) for proportions. The Mann-Whitney U test was used to compare continuous variables between groups; the χ^2 square test was used to compare proportions.

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Table 3 - Participant's responses to questionnaire by years of clinical practice using a cut-off of 5 years.

General Practitioner	<5 years of practice	≥5 years of practice	*p*-value*
6. Correct diagnosis of HS	98 (98.0)	81 (96.4)	0.154
7. Diagnosis of HS			0.278
Clinical	97 (97.0)	84 (100.0)	
Analytical	1 (1.0)	0 (0.0)	
Histological	2 (2.0)	0 (0.0)	
Imagiological	0 (0.0)	0 (0.0)	
8. Characterization of HS			
Chronicity	87 (87.0)	69 (82.1)	0.361
Inflammation	89 (89.0)	77 (91.7)	0.544
Infection	43 (43.0)	36 (42.9)	0.984
Poor hygiene	8 (8.0)	4 (4.8)	0.376
Furunculosis and abcesses	59 (59.0)	48 (57.1)	0.799
Handicap	45 (45.0)	36 (42.9)	0.771
Use of intravenous drugs	1 (1.0)	0 (0.0)	0.358
Antibiotics	35 (35.0)	36 (42.9)	0.275
Surgery	33 (33.0)	27 (32.1)	0.902
Laser therapy	24 (24.0)	17 (20.2)	0.541
Biological therapy	15 (15.0)	13 (15.5)	0.929
Tobacco use	54 (54.0)	30 (35.7)	0.013
Obesity	72 (72.0)	44 (52.4)	0.006
9. Correct prevalence of HS	50 (50.0)	39 (46.4)	0.617
10. Number of HS patients in career			
0	49 (49.0)	15 (17.9)	<0.001
1-5	46 (46.0)	47 (56.0)	>0.050
6-10	5 (5.0)	12 (14.3)	<0.001
11-20	0 (0.0)	4 (4.8)	<0.001
>20	0 (0.0)	6 (7.1)	<0.001
11. Management of HS patients by themselves	5 (5.0)	16 (19.0)	0.002
12. Referral to other specialties*			0.040
Dermatology	93 (93.0)	71 (84.5)	
General Surgery	4 (4.0)	6 (7.1)	
Plastic and Reconstructive Surgery	3 (3.0)	3 (3.6)	
Internal Medicine	0 (0.0)	0 (0.0)	
Specialty in infectious diseases	0 (0.0)	2 (2.4)	
Other	0 (0.0)	2 (2.4)	
13. Course of action			0.452
Immediate referral plus immediate treatment	71 (71.0)	51 (60.7)	
Would try to treat without referring	19 (19.0)	20 (23.8)	
Would neither refer nor treat	0 (0.0)	1 (1.2)	
Immediate referral without initiating treatment	7 (7.0)	10 (11.9)	
Does not know/Does not answer	3 (3.0)	2 (2.4)	
14. Therapeutical options			
Topical disinfection and daily bandages	31 (31.0)	27 (32.1)	0.868
Topical antibiotics	50 (50.0)	31 (36.9)	0.075
Systemic antibiotics	53 (53.0)	55 (65.5)	0.087
Surgical excision	6 (6.0)	4 (4.8)	0.712
Surgical incision	14 (14.0)	9 (10.7)	0.502
Immunosuppressive therapies	7 (7.0)	1 (1.2)	0.054
Would not initiate treatment	7 (7.0)	5 (6.0)	0.774
15. Surgical approach cures HS	2 (2.0)	6 (7.1)	0.172
16. Management of HS			
Easy	0 (0.0)	0 (0.0)	1.000
Complicated	44 (44.0)	38 (45.2)	0.866
May need a multidisciplinary approach	96 (96.0)	70 (83.3)	0.004

HS=hidradenitis suppurativa. N (%) presented for all questions. The χ^2 square test was used to compare proportions. *Dermatology compared with all other specialties.

Interestingly, less experienced GPs, and therefore younger, choose more often a multidisciplinary approach of care for HS patients.

DISCUSSION

Our data suggested that the disease is well recognized by Portuguese GPs, since almost all physicians chose HS as the most likely diagnosis in the description of a patient with typical symptoms. Moreover, almost all the clinicians, regardless of the number of years of clinical practice, considered the diagnosis of HS a clinical diagnosis. The diagnosis of HS is indeed clinical, usually with no need of complementary diagnostic exams or tests. Therefore, establishing the diagnosis is theoretically easy: chronic and relapsing typical lesions in typical anatomic areas of the skin.[15] The dissociation between the high percentage of right answers in a questionnaire and the long time to diagnosis described in the literature is hard to explain. We speculate that when confronted with a clinical scenario in the real world, maybe the lack of experience assisting HS patients or the immediate reassurance of the diagnosis by a dermatologist may make GPs consider excluding other acute entities before admitting that it might be a chronic case of HS.

Nevertheless, regarding the characterization of HS, almost half of the GPs that answered the questionnaire did not associate HS with disability. This is a very important point since the disability caused by HS is substantial[16] and this fact demonstrated a low knowledge about HS by GPs.

This low knowledge is also demonstrated by the question about prevalence, since only half of the GPs have recognized the correct prevalence of HS, approximately 1%,[9] and the other half of the responders underestimated it.

The answers regarding the course of action after a diagnosis of HS have shown some variability, being the "immediate referral plus immediate treatment" the most voted option. However, this variability demonstrated that GPs need more training regarding HS and how to proceed in the presence of a patient with an HS diagnosis. The same occurred in the question about the therapeutic options, where the variability was also high, demonstrating the lack of information and uniformization in the approach of an HS patient. Notwithstanding, due to the complexity and heterogeneity of the disease, each patient should be evaluated as a unique case and in some cases multiple therapies are needed.[15,17-19] Adalimumab is the only on-label drug for the treatment of HS, approved for adolescent and adult HS patients with moderate to severe disease who are intolerant or have had counter-indication or inadequate responses to systemic antibiotics for at least 3 months.[20-22] However, only approximately 15% of the clinicians that answered this questionnaire considered biological therapy appropriate for HS. These data revealed an important lack ok knowledge of HS therapy by GPs.

Despite the complexity of the disease management, less than a half of GPs considered the management complicated, yet none considered it easy. It is important to note that GPs were conscientious that the surgical approach did not cure HS.[17,18]

Risk factors for HS including smoking and obesity are well documented.[10,16,23,24] However, the number of GPs aware of this was low. This can contribute to less efficacy in the management of HS: appropriate patient education about the complex nature of the disease and its risk factors/comorbidities are essential to ensure treatment compliance and efficacy.[17] Interestingly, clinicians with less than 5 years of clinical practice were more aware of this than the more experienced ones. The relevance of knowing the association between obesity/smoking and HS is related to the holistic approach of this disease: a HS patient should be treated in a multidisciplinary way and smoking cessation and weight loss strategies belong in the sphere of GPs' competence.

The number of GPs that answered that they manage HS patients by themselves was low but relevant: 5% in the group with less than 5 years or clinical practice, and 19% in the group with more than 5 years of clinical practice. This implies late referral, with the consequent delay of starting the correct treatment which will worsen the disease.[25] When compared to the results from Belgian and Danish GPs, 34.4% and 69.4%,[14] respectively, the number of Portuguese GPs that manage HS by themselves is much lower.

Beyond late referral, the choice of the correct specialty for referral is crucial in the correct management of these patients.[17] Most GPs correctly referred the patients to Dermatology. However, approximately 10% of the patients were not correctly referred. Once more, the incorrect referral will delay the start of the appropriate therapeutic options and impact on the prognosis.

Although the percentage of younger doctors considering a multidisciplinary approach important was higher than the more experienced ones, both groups agreed that HS may need a multidisciplinary approach. The establishment of a multidisciplinary team for the management of HS allows for a complete evaluation of the disease and a more comprehensive treatment approach, contributing to the appropriate management of HS.[14,26,27] Ideally dermatologists should coordinate the treatment with the support of surgeons, psychologists, endocrinologists, gastroenterologists, pain specialists, gynecologists and pediatricians, as needed.[28] Also, GPs should be included in this team in order to evaluate the patient in a holistic manner and contributing to lifestyle modification in addition the other medical and surgical treatments.[15,29]

Considering the differences found between the two groups of GPs (cut-off 5 years of clinical practice), there were some points that should be evidenced: the impact of tobacco use and obesity in HS; the management of HS by themselves; and the need of a multidisciplinary approach for the management of HS.

A possible bias of the study was the fact that the

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questionnaires were applied during two scientific meetings with an HS talk announced on the programme. Although applied before the specific session regarding HS, the GPs attending these scientific meetings could have a particular interest in Dermatology/hidradenitis suppurativa when compared to other GPs that did not attend these meetings. As such, there may be a significant selection bias in the participant pool, and these GPs may have some previous knowledge in Dermatology/HS. Another limitation is that the questions addressing diagnosis were created using detailed clinical description and not clinical pictures. In future studies, clinical pictures as well as initial HS cases could also be provided as so many experts feel that GPs may experience more trouble diagnosing HS in initial stages.

CONCLUSION

In conclusion, this study showed that the majority of the Portuguese GPs were able to identify HS based on the description of a clinical case, recognized its chronicity and were aware of the need of referral to Dermatology. Nevertheless, approximately 10% of GPs manage HS by themselves or do not correctly refer them to Dermatology. Thus, this emphasizes the need for education and training of all GPs, regardless of the years of clinical practice. This training will allow for an accurate and early diagnosis of HS and lead to the appropriate referral. Reducing the delay in the beginning of the appropriate treatment and the disability associated with this painful condition might improve the prognosis of the disease, consequently increasing the patients' quality of life and reducing absenteeism and healthcare costs.

Presentations /Apresentações

This work was presented as a poster on the 8th Conference of the European Hidradenitis Suppurativa Foundation that occurred in Wroclaw, Poland, from 6th-8th February 2019.

Conflitos de interesse: Pedro Mendes-Bastos foi consultor e / ou palestrante na AbbVie, Pfizer, Janssen-Cilag, Leo-Pharma, Novartis, Sanofi, Teva, L'Oréal, Cantabria Labs e Bayer e investigador em Ensaios Clínicos patrocinados pela AbbVie e Novartis. Farida Benhadou não tem conflitos de interesse. Paulo Ferreira foi consultor e / ou palestrante na Abbvie, Pfizer, Janssen-Cilag, Leo-Pharma, Novartis, Teva e Lilly e investigador em Ensaios Clínicos patrocinados pela Abbvie, Novartis e Janssen. Ana Brasileiro não tem conflitos de interesse.
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