

**Table II.** KA lesion characteristics and treatment response

Characteristics	Values
Lesion location, n (%)	
Leg L	35 (51)
Leg R	27 (39)
Arm L	3 (4)
Arm R	4 (6)
Lesion size, mm, n (%)	
<6	10 (15)
6-10	21 (30)
11-20	20 (29)
>20	7 (10)
Not specified	11 (16)
Biopsy proven KA, n (%)	45 (65)
Total cumulative MTX over treatment course, mg, mean (SD)	39 (25)
Treatment response, n (%)	
Complete resolution	66 (96)
Partial resolution	2* (3)
No response	1 (1)
Additional treatment, n (%)	
Mohs surgery	1 (1)
ED&C	1 (1)
Topical 5-FU	1 (1)
Number of injections, mean (range)	2 (1-7)
Time course of injections, days, mean (range)	37 (0-245 <sup>†</sup> )
Lesion size compared to MTX amount	$P < .001$
≤10 mm, MTX in mg, mean (SD)	29 (18)
>10 mm, MTX in mg, mean (SD)	51 (25)
Lesion size compared to duration of treatment	$P = .02$
≤10 mm, mean days (SD)	24 (33)
>10 mm, mean days (SD)	56 (60)
Lesion size compared to average number of injections	$P = .51$
≤10 mm, mean (SD)	2.2 (1.2)
>10 mm, mean (SD)	2.6 (1.2)

5-FU, 5-fluorouracil; ED&C, Electrodesiccation and curettage; KA, keratoacanthoma; MTX, methotrexate; SD, standard deviation.

\*One biopsy-proven KA that only partially responded was previously treated with radiation at an outside facility, followed by 4 intralesional MTX injections with significant improvement and then subsequently treated with topical 5-FU with resolution. The other partially responding biopsy-proven KA lesion was treated with electrodesiccation and curettage after 2 injections per patient preference.

<sup>†</sup>The patient with a 245-day treatment course had 4 injections of this lesion and a long course because of sporadic appointment scheduling.

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#### An Internet-based survey study of patients with hidradenitis suppurativa: Use of the Internet for disease-related information



*To the Editor:* The prevalence of hidradenitis suppurativa (HS) has been estimated as high as 4%.<sup>1</sup> There is often a delay in diagnosis of nearly 7.2 years and another 2-year lag until initiation of adequate treatment.<sup>2,3</sup> The Internet can increase disease awareness and decrease delays in diagnosis if the appropriate information is available to patients. As a step toward this goal, we sought to determine what information patients with HS seek online, because this knowledge will allow the development of online resources that reflect their needs.

One advantage of the Internet is that it allows patients to connect and share recommendations, which has even led to the discovery of new treatments such as low-dose naltrexone for Hailey-Hailey disease.<sup>4,5</sup> A disadvantage is that there is no regulation of the sources, which can result in the spread of false—even harmful—information.

After institutional review board exemption from Wayne State University, a survey was developed and posted in the Reddit website's "Hidradenitis" forum and in the "Hidradenitis Suppurativa" Facebook group from April through May 2019 (Supplemental Figure S1; available via Mendeley at <https://doi.org/10.17632/8kk7xyk53m.1>). The final survey consisted of 21 questions related to HS, access and use of the Internet, and HS information-seeking behaviors.

Before diagnosis, 77.3% (109/141) of participants used online search engines (Google, Bing, Yahoo, etc) to learn about their symptoms (Fig 1 and 2). Among the undiagnosed population, 42.0% (55/131) of participants believed this information assisted in obtaining their diagnosis from a physician. Nearly half of respondents reported sharing advice online

Survey Question	Response
Q1 - Have you been officially diagnosed with Hidradenitis Suppurativa (HS) by a physician?	87% (123/141) = Yes, 13% (18/141) = No
Q2 - How old were you when you first noticed signs or symptoms of HS?	Mean = 16.3 Years
Q3 - How many different doctors did you see about your HS signs/symptoms before the diagnosis of HS was made?	Mean = 3.48 Doctors
Q4 - Approximately how much time passed from your first signs/symptoms of HS and the time the diagnosis was made?	Mean = 8 Years and 3 Months
Q5 - Do you have any family members with HS?	25% (35/141) = "Yes"
Q6 - Before you were diagnosed with HS, did you look for information about your disease from any of the following sources?	77% (109/141) used "Online search engine (Google, Bing, Yahoo, etc)"
Q10 - Do you currently use social media or online sources to learn and/or talk about HS?	93% (131/141) = "Yes", 7% (10/141) = "No"
Q10a - What sources do you currently use? (Select one or more)	Reddit = 95% (124/131), HS foundation website = 31% (41/131), Facebook = 27% (36/131), Hope for HS website = 16% (21/131), Youtube = 12% (16/131)
Q11 - Do you feel that the information you found online affected your journey to diagnosis by a physician?	42% (55/131) = "Yes, it helped me get a diagnosis from a doctor sooner"
Q12 - Do you feel that the information you found online affected the over-the-counter treatments of your HS?	50% (65/131) = "Yes it helped my treatment"
Q13 - Do you feel that the information you found online affected the prescription treatments of your HS?	24% (32/131) = "Yes, it affected my treatment"
Q14 - Do you feel online sources of information have affected you in other ways? (free text)	Most common theme in responses mentioned sense of community
Q15 - How did you discover the source of information that was most useful to you?	85% (111/131) = "Discovered myself", 9% (12/131) = "Recommended by healthcare provider", 4% (5/131) = "Other", 2% (3/131) = "Friend/Family"
Q16 - Have you given advice to others online?	53% (69/131) = "Yes"
Q16a - What advice have you given to others online? Select one or more of the following:	Lifestyle changes = 52% (36/69), Bathing/cleansing = 52% (36/69), Diet = 41% (28/69), Medications = 36% (25/69), Diagnosis = 29% (20/69), Finding a doctor = 22% (15/69), Surgery = 19% (13/69)

**Fig 1.** Participants were asked a variety of questions related to HS, access and use of the Internet, and HS information-seeking behaviors. *HS*, Hidradenitis suppurativa.

What information were you looking for and how important was each (please rank 1- not important, 5- extremely important)?	Before Diagnosis (mean)	After Diagnosis (mean)
Figuring out what disease I have (diagnosis)	4.17	3.67
The cause of my disease	4.13	4.14
Advice on living with the disease	4.04	4.38
What over-the-counter treatments are available	4.00	4.10
Help finding a doctor who takes care of my disease	3.96	3.81
Lifestyle changes	3.96	4.10
What prescription treatments are available	3.79	4.27
Diet	3.77	4.02
Bandage/dressing advice	3.65	3.79
Clothing changes	3.55	3.55
Asking for medical advice from a healthcare provider, group or foundation	3.27	3.52
Supplements	3.26	3.38
Information about surgery for my disease	3.02	3.40
Asking for medical advice from other patients	2.99	3.49

**Fig 2.** Participants were asked to rank (from 1, *not important* to 5, *extremely important*) the importance of information found online.

(69/131, 52.7%). When asked who is responding to advice posted, only 1 participant (1/69, 1.45%) answered that a dermatologist commented on the advice, with all others being fellow patients with HS. After diagnosis, 49.6% (65/131) of participants found helpful information about over-the-counter treatments online, and 24.4% (32/131) found helpful information about prescription treatments online. As

a result of exploring online resources, 73.3% (96/131) of participants changed their lifestyle/diet/treatment, of which 80.2% (77/96) found the changes to be helpful. When asked how they discovered the source of information that was most useful, only 9.16% (12/131) of participants attributed this to a recommendation by a health care provider. The other 90.84% discovered the information

themselves (84.7%, 111/131), other (3.81%, 5/131), and from friends/family (2.29%, 3/131). However, 66.6% (94/141) of participants indicated that they were most likely to follow advice made by a physician, rather than an online source or other. However, only 43.2% (61/141) of patients with HS would recommend their physician.

These findings illustrate the need for providers highly skilled in treating HS. Many patients are seeking answers and making decisions based on information they find online, but there is minimal direct input from physicians. This is an opportunity to use online forums to determine what information patients are seeking and determine a way to provide them with accurate sources of information, such through as the HS Foundation. Our conclusions are limited by selection bias because our survey was posted on Reddit and Facebook, which may exclude users of other online platforms and those without access to the Internet.

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#### Animal product in suture material: A survey study of dermatology patient perspectives



*To the Editor:* Sutures used in dermatologic surgery commonly contain animal product, but the nature of the suture material is rarely discussed with patients preoperatively. This may present an ethical concern for patients who object to the use of animal products according to beliefs or dietary preferences (ie, vegetarian/vegan). To our knowledge, no study has explored dermatologic patient beliefs on animal-derived sutures, including whether disclosure of this information could alter patient preferences.

To determine whether information in regard to suture material should be included in our pre-procedural consent process, we created a short, nonvalidated survey to assess preferences and dietary habits. We hypothesized that dermatology patients would prefer to be informed about the use of animal-derived suture material or might object strongly enough to opt for alternative material. Additionally, we hypothesized that the proportion of patients objecting to suture material containing animal product would be significantly higher in the vegetarian/vegan population compared with that in the general population.

Adult participants were recruited in the waiting room before their appointments at UConn Health Dermatology during July 2019. One hundred thirty-six patients were invited to participate, and 102 patients agreed to complete the survey (75% response rate). Most participants were aged 18-25 years (n = 17; 16.8%), 56-60 years (n = 13; 12.9%), or older than 65 years (n = 25; 24.8%) and were women (n = 63; 62.4%). A high portion of participants reported having received stitches either at our facility or elsewhere (n = 80/101; 79%). Additionally, most patients reported that they would want to know whether animal products were being placed in their skin (n = 75/101; 74%). Furthermore, a substantial portion of patients reported that use of animal product in their stitches would affect their treatment preferences (n = 38/96; 40%). One-third of patients (n = 32/96; 33%) reported that they would decline the use of animal-based material used in stitches (n = 32/96; 33%), and 47% of these patients reported they would decline even if it meant they would have to come back for another visit to remove the stitches (n = 31/66; 47%). Responses to these 4 questions in regard to suture material were not statistically different between vegetarians and nonvegetarians (Fisher's exact test  $P = .21-.68$ ) (Table 1).