Halting Progression of Stasis Dermatitis: Community Perspectives and Strategies for Prevention

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Halting Progression of Stasis Dermatitis: Community Perspectives and Strategies for Prevention

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Battenkill Valley Health Center
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**Problem Identification**

- **Chronic venous disease (CVD)** is commonly assessed using the Clinical-Etiology-Anatomy-Pathophysiology (CEAP) classification.
- **Chronic Venous Insufficiency (CVI)** is characterized as patients with more advanced clinical signs of CVD (C3-C6).

![CEAP Classification of Chronic Venous Disease](image)

**CEAP Classification** of Chronic Venous Disease

Clinical classification illustrated only

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C4: (a) Pigmentation and/or eczema (b) Lipodermatosclerosis and/or atrophie blanche

C5: Healed venous leg ulcer

C6: Active venous ulcer

Problem Identification

- CVI skin changes in western countries range from \(<1\%-40\% \text{ in women and } <1\%-17\% \text{ in men}^2\)
- Progression to stasis dermatitis (C4) is most common in people \(>50\text{ years old}\) in the USA with an overall disease prevalence of 6-7\%\(^3\) in patients \(>50\text{ years old}\)

- In Vermont, 18.1\% of people are \(>65\) years old and specifically in Bennington County 22.1\% of people are \(>65\) years, demonstrating a large population at risk of developing or actively managing stasis dermatitis without taking into account people ages 50-65\(^4\)
  - One study found an association between symptoms of venous insufficiency and increased BMI in people from Burlington, Vermont and Leiden, Netherlands\(^5\)
  - In Vermont, 56\% of the population \(>45\text{ years old}\) are considered obese\(^6\) and in Bennington County 24.1\%\(^7\) of the total population are considered obese, thus further increasing the risk of these populations developing or managing stasis dermatitis

- According to the AAFP\(^8\), the prevalence of venous stasis ulcers (C5-C6) is 1\% in the USA, and of people in the USA affected by venous stasis ulcers, the recurrence rate is 72\%\(^9\)

- Complications of venous ulcers include osteomyelitis, cellulitis and malignant changes, thus developing venous stasis ulcers significantly increases a patient’s mortality rate\(^10,11\)

Key Problem:
- The complications of stasis dermatitis including venous ulcers, osteomyelitis, and cellulitis all significantly increase morbidity and mortality of disease
- Progression beyond stasis dermatitis and avoidance of the aforementioned complications are preventable with patient education and adherence to basic therapies including compression stockings and lifestyle modification

Therefore, the questions needing to be addressed are: (1) What is our patients’ understanding of stasis dermatitis? (2) Are they aware of the complications associated with disease progression? (3) Do they know when to come see a provider for worsening symptoms of venous insufficiency beyond stasis dermatitis? (4) What are the barriers to treating stasis dermatitis and preventing disease progression?
Public Health Cost

- Estimated financial burden of $1.9-2.5 billion dollars per year in the USA for venous stasis ulcers\(^9,12\)
  - Average total medical cost of $9685 per patient for 3 months of venous stasis ulcer treatment\(^9\)
- In 2016, Vermont had 135,668 total Medicare beneficiaries (22% of total VT population)\(^13\)
  - This is higher than the national average (18%) of Medicare beneficiaries as a percent of the total population
- The financial burden of progression of CVI beyond stasis dermatitis is an enormous Medicare expense since people >50 years old are predominantly affected
- In 2016, there were 9,116 Bennington County beneficiaries of Medicare\(^13\) which was 25% of the Bennington County population
  - This has increased from 8,591 Bennington County beneficiaries of Medicare in 2014,\(^14\) which was 24% of the Bennington County population
- As of 2014, in Bennington County the standardized risk-adjusted per capita Medicare cost was $8,473.15\(^14\) which is higher than the majority of counties in Vermont
- Medicare does not cover compression stockings/garments in their insurance plan, limiting access to an affordable preventative therapy

Thus, there is a large proportion of Medicare dollars being spent on CVI beyond stasis dermatitis which could be saved with relatively inexpensive interventions including compression stockings, exercise, and weight loss. Through preventative measures, expanded insurance coverage, and appropriate management of stasis dermatitis prior to venous ulcer formation we can decrease the burden of cost in Bennington County, Vermont, and nationwide.
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<th>Community Perspectives</th>
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<tr>
<th>Name</th>
<th>Role</th>
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<tbody>
<tr>
<td>Maggie Dusha, ANP FNP</td>
<td>Battenkill Valley Health Center Provider</td>
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<tr>
<td>Dr. Marisa Friscia, MD</td>
<td>Battenkill Valley Health Center Provider</td>
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<tr>
<td>Kate Lawrence, MSN BSN RN</td>
<td>Director of Home Care, VNA &amp; Hospice of Southwest Region of Vermont</td>
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<tr>
<td>Margaret Heale, WOCN</td>
<td>Heale Wound Care WTA program course: Private WOC Consulting</td>
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**Do your patients understand the potential consequences of stasis dermatitis?**

- *Maggie Dusha, ANP FNP*
  - “I don’t [think so] because patients who have had this for a long time look at this [stasis dermatitis] as their norm.”

- *Dr. Marisa Friscia, MD*
  - “I try to explain it to them but the truth is, is that most patients don’t understand it.”

- *Kate Lawrence, MSN BSN RN*
  - “For the most part the patients are unaware across the board unless they have had nursing interventions before.”

- *Margaret Heale, WOCN*
  - “No I don’t think they do generally speaking. People don’t seem to appreciate that covering up a problem, such as with trousers, doesn’t get rid of that problem.”

**Do you think your patients understand when to come see their provider for worsening symptoms of venous insufficiency beyond stasis dermatitis?**

- *Maggie Dusha, ANP FNP*
  - “Not always, they don’t realize the severity and complications that can occur. They say ‘it will heal on its own’ if they have a venous ulcer developing. They typically initially try to manage the symptoms themselves, but they will come in with increased drainage, pain, and redness around the lesion.”

- *Dr. Marisa Friscia, MD*
  - “If they have had it for a while with recurrent symptoms then yes they do, but not initially. If they have had multiple episodes of treatment with improvement, then they will return with worsening symptoms.”

- *Kate Lawrence, MSN BSN RN*
  - “No, overall patients have no clue. They know their legs get big and their shoes don’t fit but they won’t start going to see a provider unless it is painful, they have an ulcer, or a provider picks it up in the office.”

- *Margaret Heale, WOCN*
  - “Most people don’t see discoloration or itching as something that will take them to the doctor’s office. Also, many people don’t have a primary care provider at all because they either want to avoid the doctor’s office or can’t afford to go to a doctor’s office.”
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<tr>
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<td><strong>What are some of the barriers your patients face in treating stasis dermatitis?</strong></td>
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<td>“The frequency of needing to be seen by a provider or resistance to letting someone into their home such as a visiting nurse; the cost of treatment can be very expensive; and it is hard for patients in this age group to get compression stockings on. The zipper compression stockings are expensive and insurance won’t give it to them at first.”</td>
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<td>“Being proactive, exercising, eating the right food, low salt [diet], losing weight, and using compression socks.”</td>
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<td>“[Barriers are] based on cost, access, and self-management ability.”</td>
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<td>“The biggest barrier is compression stockings, they are really difficult for patients to manage.”</td>
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<td>“Following through on their part; moisturizing and not scratching.”</td>
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<td>“Access to compression stockings and the secondary problem is being able to put them on. This is very problematic for morbidly obese and elderly patients.”</td>
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<td>“There are many creams and moisturizers out there and people try all of that stuff. They are told they need to moisturize their legs, but the content of the moisturizers can be very allergenic so finding products that people are not sensitive to is a huge problem.”</td>
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<td><em>What are the barriers you as a provider face in counseling/managing these patients/their stasis dermatitis?</em></td>
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<td>“Compliance, time (office visit length), supplies to treat in the office. Education-wise, there isn’t much material that is written on this that I can give to patients since I want to make sure it is in language they can understand.”</td>
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<td>“Getting the patient back into the office multiple times to reinforce the importance of treatment. Follow up is much more important than the primary visit.”</td>
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<td>“Access to [insurance] coverage for garments/stockings for long term management and patient buy in, which takes more than a 5-10 minute office session.”</td>
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<td>“Trying to convince people that they need to change their lifestyle and they need to be part of the solution to the problem that they have. We are all individuals and all have habits that we grow into.”</td>
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Goals of the Project

- Assess the community’s understanding of stasis dermatitis and their awareness of its complications
- Use this information to help healthcare providers tailor their preventative health counseling accordingly
- Provide education for patients on stasis dermatitis, its complications, and therapies/behavioral changes to prevent disease progression

Methodology

- 13 patients at Battenkill Valley Health Center between 1/1/2017-12/13/2017 were identified by the electronic health records as having a diagnosis of stasis dermatitis or chronic venous insufficiency
- *Stasis Dermatitis Questionnaire* administered to a total of 7 of the selected patients; 6 via telephone and 1 in person
- 1 patient chose to abstain from the questionnaire
- 5 patients were unable to be reached
- No identifying information was collected
Intervention

- Developed an educational handout on stasis dermatitis for healthcare providers to distribute to qualified patients.
- Devise recommendations for future preventative counseling based on analysis of survey data.
Results & Responses

Stasis Dermatitis Questionnaire Results

- **Our patient’s understanding of stasis dermatitis and its complications**
  - Relatively poor
  - 71% of patients surveyed have had symptoms of stasis dermatitis for more than 3 years, yet only 43% of patients correctly identified all of the symptoms that would warrant a visit to a healthcare provider (pain, redness, pus-like drainage, or open-wound/ulcer).

- **Patients with history of complications from CVI**
  - 57% of patients experienced at least one complication as a result of their CVI including a skin infection, skin ulcer, or bone infection indicating poorly controlled disease within this sample population.

- **Patients who had been spoken to about stasis dermatitis by a healthcare provider**
  - 86% of patients stated that they had not been counseled on the complications of untreated symptoms of stasis dermatitis and 57% of patients stated they had not been counseled on ways to prevent stasis dermatitis and its progression by a healthcare provider demonstrating an opportunity for education.

- **Patients who have attempted to manage their stasis dermatitis with leg elevation and/or gradient compression stockings**
  - 86% of patients have tried to elevate their legs for symptom relief and 71% of patients have tried gradient compression stockings at least once to prevent symptoms.

- **Patients who have attempted to manage their stasis dermatitis with exercise, weight loss and/or medication**
  - 57% of patients exercise, 29% intentionally lost weight since the onset of their symptoms, and 29% of patients are taking medications/treating their symptoms in some alternative way.
Community Perspective Responses

- Unanimously providers interviewed agree that the majority of patients do not understand the potential consequences of stasis dermatitis.
- Providers generally agree that patients are initially hesitant to see a provider for worsening symptoms of venous insufficiency and commonly only present after severe pain and ulceration has developed.
- Treatment barriers for patients according to providers include: access to therapies, cost of therapies, and self-motivation for adherence to therapies.
- Treatment barriers for providers treating these patients include: patient compliance, patient follow-up, lack of appropriate educational material, and access to insurance coverage for preventative treatment modalities.

Overall Conclusions Drawn from Results

- Providers’ perception of their patients’ understanding of stasis dermatitis and its complications corresponds with surveyed patients’ comprehension.
- Despite most patients attempting preventative therapies, 50% had developed complications from CVI. This was consistent with provider reflections of delayed patient presentations until severe disease had developed. This demonstrates poorly controlled disease and room for implementing more aggressive preventative strategies and therapies.
- The discrepancy in the patient-reported lack of provider counseling on stasis dermatitis complications and prevention and provider-reported lack of patient compliance and follow-up suggests an opportunity to investigate how to better educate patients in the context of an office visit with a goal of adherence.
Evaluation of Effectiveness & Limitations

Evaluation of Effectiveness

- This study served as a cursory glance at patient awareness of stasis dermatitis to assist providers with preventative counseling while also developing a handout to supplement this discussion.

- This study was effective in the sense of beginning the conversation surrounding this disease, yet in order to evaluate the true effectiveness of this study a secondary study would need to be performed on a larger cohort of patients over a longer duration. The results of these two studies could be compared to determine if there is a similar trend in outcomes.

Limitations

- The size of the cohort sampled was limited to 7 participants which restricts our ability to draw significant conclusions and generalize our findings to the population.

- The patients surveyed were based on a medical record diagnoses of stasis dermatitis or CVI, which relies on provider documentation and this is not always up to date.

- Patients from only one primary care office were surveyed, introducing selection bias into our results.

- Most patients were administered the *Stasis Dermatitis Questionnaire* over the telephone, thus preventing clinical confirmation of stasis dermatitis/CVI prior to questionnaire completion.
Recommendation for Future Projects/Interventions

- Distribute Stasis Dermatitis handout to patients with venous insufficiency or at risk of developing it due to comorbid conditions
  - Evaluate patients’ management of venous insufficiency over time after being provided with this material
- Train medical assistants and nurses to assess all patients for chronic venous disease on initial office visit intake
- Encourage providers to incorporate a lower extremity examine into their repertoire of preventative screening exams to assess for stasis dermatitis
  - Document any signs of venous insufficiency with images in chart for chronic evaluation
- Encourage providers to use the Venous Clinical Severity Score (VCSS)\textsuperscript{15,16} when evaluating all patients
  - Document this value in the medical records for an objective evaluation of their chronic venous disease

\begin{table}
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\begin{tabular}{|c|c|c|c|c|}
\hline
Attribute &Absent & Mild & Moderate & Severe \\
\hline
Pain & None & Occasional, not restricting activity or requiring analgesics & Daily, moderate activity limitation, occasional analgesics & Daily, severe limiting activities or requiring regular use of analgesics \\
\hline
Varicose veins & None & Few, scattered branch veins & Multiple: GS varicose veins confined to calf or thigh & Extensive: thigh and calf or GS and SF distribution \\
\hline
Venous edema & None & Evening ankle edema only & Afternoon edema, above ankle & Morning edema above ankle and requiring activity change, elevation \\
\hline
Skin pigmentation & None or focal, low intensity (1st) & Diffuse, but limited in area, and old (brown) & Diffuse over most of garter distribution (lower 1/3) or recent pigmentation (purple) & Wider distribution (above lower 1/3) and recent pigmentation \\
\hline
Inflammation & None & Mild cellulitis, limited to marginal area around ulcer & Moderate cellulitis, involves most of garter area (lower 1/3) & Severe cellulitis (lower 1/3 and above) or significant venous ecchymosis \\
\hline
Induration & None & Focal, circumferential (\textgreek{g} cm) & Medial or lateral, less than lower third of leg & Entire lower third of leg or more \\
\hline
No. of active ulcers & 0 & 1 & 2 & > 2 \\
\hline
Active ulceration, duration & None & < 3 mo & > 3 mo < 1 y & Not healed > 1 y \\
\hline
Active ulcer, size & None & < 2-cm diameter & 2- to 6-cm diameter & > 6-cm diameter \\
\hline
Compressive therapy & Not used or not compliant & Intermittent use of stockings & Wears elastic stockings most days & Full compliance: stockings + elevation \\
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\caption{Venous clinical severity score (VCSS).}
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References


