THE LEG ULCER FORUM JOURNAL

Issue 30 2020

Leg Ulcers
Framing the Future

www.legulcerforum.org

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Jackie Dark
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Committee Member

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Clinical Nurse Specialist, Leg Ulcer Service
Editor

Lorraine Grothier
Elected Commercial Adviser

Vacancy x2
Please contact Lynne Blake if you
are interested in being involved in the LUF

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Notice to all members

You are all invited to attend the forthcoming Leg Ulcer Forum Annual General Meeting (AGM), which is to be held virtually on Tuesday 26th January 2021 between 18.30 and 19.30hrs.

All the executive members would encourage and welcome your attendance. We also see this as an opportunity for interaction - you can help shape the future direction of the Forum and a couple of educational sessions will also be included within the scheduled time.

If you are interested in attending then please email Lynne Blake, Administrator for the Leg Ulcer Forum, using the following email address legulcerforum@yahoo.co.uk. Lynne will then be able to send you a link a week before the event to allow you to join on the evening of the 26th January 2021.

We look forward to welcoming you to the AGM.

Welcome From the Editor

Helen Tilbe

The global pandemic is having a huge effect on us all from a professional perspective as well as personally, requiring all of us working in the healthcare sector to adapt and change to new demands. As we are all well aware, the impact is wide reaching, encroaching on all aspects of health care provision. It has also inevitably impacted on the many advisory and support networks which are there to help NHS staff in their various roles.

2019 seems an eternity ago, when the activities of the Leg Ulcer Forum were carrying on "as normal". Two conferences, with the focus on "Leg Ulcers – Framing the Future", took place. The first was held in Essex in the summer and we then headed west to Cardiff in the autumn. The two days were well attended with as enthusiastic participation by delegates as ever. Key presentations at the conferences, reflecting the main theme, will be shared with you all as articles in this journal. The Leg Ulcer Forum executive team was busy planning the 2020 conference programme earlier in the year until Covid 19 scuppered those plans! This edition of the Leg Ulcer Forum journal has also been delayed as a result but I am pleased to finally be able to share it with you.

We were thrilled that the forum's Life President, Professor Christine Moffatt, spoke at the conference in Wales about the need for a national approach to leg ulcer management. Professor Moffatt discussed reasons why things have possibly not moved on in the way we would have hoped with regard to leg ulcer management in previous years, and how imperative it is that there is a national approach. Professor Moffatt vocalised a powerful message which we are pleased to say she is sharing more widely with you all in this journal by reflecting on leg ulcer care provision over the last 25 years. Her article clearly shows that, despite enthusiasm and drive at grass roots level, momentum to change things at the highest level nationally has remained unattainable. However Professor Moffatt does end the item on a hopeful note - maybe the time is right now for the changes that have long been called for to finally receive the necessary backing across all parts of the UK.

This brings us perfectly on to the second and third pieces in this journal with their focus on developments to improve leg ulcer care as part of wider wound care provision remits. Una Adderley provides an update on what is happening nationally across England regarding the NHS Wound Care Strategy Programme, with a specific focus on the lower limb. Heidi Sandoz's article gives a more local perspective, focussing on a wound care initiative across one specific sustainability and transformation partnership (STP) in England (now evolving into an integrated care system as the next step in NHS England's Five Year Forward View). The challenges of trying to continue to provide care during a time of crisis highlight the importance of the recommendations laid out in both articles being implemented – appropriate management of lower leg issues will ultimately reduce pressure on health care provision.

We then shift the focus slightly to give some consideration to a couple of articles which both emphasise, in very different ways, the importance of communication skills within the field of leg ulcer management. Firstly we look at pyoderma gangrenosum, one of the more unusual causes of leg ulceration. Susan Knight provides an overview of this complex condition, so that we are able to gain some understanding of the challenges clinicians encounter whilst working towards gaining a conclusive diagnosis for patients with this disorder. Susan's article clearly shows that the assessment process relies on various forms of communication, including visual, verbal and listening skills for that diagnosis to be made. Brenda King's article meanwhile is a reminder to us all of the importance of accurate written information in relation to any health records. Communicating care provision in this way is a skill all health care professionals need to develop. Brenda's piece highlights the implications when this does not happen. With the recent drive towards self-management for many patients and an increase in virtual assessments, clear documentation is as important as ever. Accurate, timely, succinct written communication has never been more important.

Many thanks to all those who have contributed to this edition of the journal. I hope you all enjoy this issue when you find time for a well-deserved break from work. If you want to share any research, experiences or practice with others, then please consider writing something for a future edition (guidance is provided in the support section).

Helen Tilbe
Clinical Nurse Specialist

A View from the Chair

Mark Collier

Once again the year was challenging financially for the LUF. However despite that we have still managed to hold two very successful conferences in Chelmsford and Cardiff in line with our responsibilities as a Registered Charity (No.1149478), both of which were extremely well evaluated and more than fulfilled the delegates expectations (as reported in their feedback sheets). Many thanks to our loyal members and company sponsors, especially those who sign up annually, as without your help the LUF simply could not continue to support healthcare professionals to promote improved outcomes for people suffering with leg ulcers and related conditions through evidence-based practice and education.

Furthermore, the LUF continued to invest in the website on which you will notice a slight change in the near future as, further to a joint meeting in March of last year involving representatives from the LUF National Executive, LUF Scotland and LUF Northern Ireland, it was agreed that for legal reasons that the three groups would in essence operate as three separate organisations. At the same time the LUF National Executive, to be renamed the LUF (England and Wales), would continue to support LUF members and LUF Scotland and LUF Northern Ireland. The LUF (England and Wales) will continue to work with the European Wound Management Association (EWMA) and play an active part in their conferences as a co-operating organisation. We are looking forward to be present at the next EWMA conference, which is to be held in London, rescheduled to November 2020 instead of the usual May slot due to the current international health crisis that we all find ourselves having to operate in. Additionally, the LUF is often asked to participate in leg ulcer related initiatives being developed or facilitated by EWMA. Furthermore, we are also pleased to support the other UK LUF organisations (Scotland and Northern Ireland) with the promotion and provision of speakers at their annual conferences and also be present at the Wound Care Today (February) and Wounds UK (November) national wound care conferences. Hope to see you at one of those events as well as our rescheduled LUF conference – keep a check on the website (https://www.legulcerforum.org/) and look out for further details.

The full list of Trustees for the LUF (England and Wales), elected nurse executive committee members, is as follows;

- Christine Moffatt (Life Time President)
- Irene Anderson (Educational Coordinator)
- Mark Collier (Chair and current Treasurer)
- Susan Knight-Coyle (EWMA Representative)
- Jacqueline Dark
- Kim Drewery
- Brenda King (Educational Coordinator)
- Helen Langthorne
- Kirsty Mahoney (Honorary Secretary)
- Gail Powell (Web site manager)
- Helen Tilbe (Journal Editor)

In addition, the executive committee members are pleased to have two commercial advisors (non-voting), Lorraine Grothier and one current vacancy, 'at hand' at both executive meetings and conferences for their professional advice. A vote will be organised in the near future (involving only our sponsoring companies) to identify a replacement for Ian Sykes, who after more than ten years invaluable service to and support of the LUF, has stepped down for professional reasons.

Although our membership is currently around 150 (but growing) we know you are a dedicated and influential group of practitioners, so please do not hesitate to get in touch with me or any of the executive via our administrator if you have an issue you would like the LUF to explore further on your behalf or to suggest subjects for inclusion at future conferences. LUF conference programmes are the only ones dedicated solely to the management of patients with leg ulceration and associated conditions. Alternatively send in your contributions/reports of any clinical evaluations/ research that you have been involved in to our journal editor (via the LUF administrator) – she would be delighted to receive them. First time authors will be supported through the publication process. Remember your voice matters and the executive are keen to represent you, a very important group of professionals, especially during the constant change process that is occurring throughout the NHS at present.

Since the UK went into lockdown in March 2020, due to the well-publicised health crisis, I am sure that many of you are being challenged to adapt working practices in response, and will be for the foreseeable future, as the effects of COVID19 will be felt for a long time to come according to all the nationally reported experts. Of course these requests to adapt and perhaps encourage more patient involvement in self-care should be considered seriously, but only if safe for all involved to do so. Your can find more information that may be of assistance to you via tvntv, ahsnnetwork.com and emwa.org.

Finally I would like to thank all of the current (and past members) of the LUF executive committee, who are all employed professionally and meet on behalf of the LUF in their own time throughout the year in a variety of venues. Also thanks once again to our sponsors (whose valuable support helps the LUF to organise and provide educational events) and of course to you, our members.

Here's to the year ahead and the promotion of evidence based best practice for the benefit of all patients at risk of or who are suffering from a leg ulcer or a related condition.

Mark Collier
Nurse Consultant and Associate Lecturer
Tissue Viability (Lincolnshire)

Leg Ulcer Forum Northern Ireland

Caroline Graham

Our NI Leg Ulcer Committee has continued to meet every 4 months. The primary focus for the next few months is to organise and deliver a conference next year.

The title of the conference is:
Diagnosis Me .... Legs Matter *
Date: 4th June 2020
Venue: Corrick House Hotel & Spa 20 Corrick House, Clogher, Co Tyrone BT76 0BZ

Further information on our conference / booking can be obtained from: maecraw@hotmail.com

This is a full day conference which will focus on a wide range of issues relating to leg ulceration.

Professor Val Edwards-Jones will provide practical and essential information on the importance of good assessment, diagnosis and management of lower leg ulceration. Whilst also discussing bioburden, chronic colonisation, and infection. This will be help practitioners to understand when good hygiene of the ulcers is sufficient, when topical preparation is necessitated, and when appropriate to use antibiotics.

The conference will be supported by speakers from the Public Health Agency and from the Department of Health. These speakers will provide an update on strategic influences and the impact having leg ulceration has on individual patients, families and society. There will also be shared information on the relevance of education in ensuring skills and knowledge is delivered in a safe, effective and timely manner. The impact for career development, recruitment and retention of a sustainable workforce in this specialist area will be discussed. Along with new changes that will help improve and develop the care of people with leg ulceration.

There will be dedicated time for networking, asking and debating specific queries or concerns as well as meeting a significant number of company representatives.

As a committee we would like to extend out congratulation to our committee member Vivienne Murdock who was a runner up at the BJN Awards 2019, for her work on chronic oedema. Vivienne has also done a considerable amount of work on the diagnosis and management of red legs. We are looking forward to hearing more from Vivienne and the work she has been doing along with colleagues from allied health professionals.

* Due to the ongoing COVID-19 situation and in line with direction from the Department of Health to postpone all non-essential corporate or professional events, this conference has now been postponed. We hope to reschedule this event and further details will be issued as soon as possible.

University of Hertfordshire

School of Postgraduate Medicine

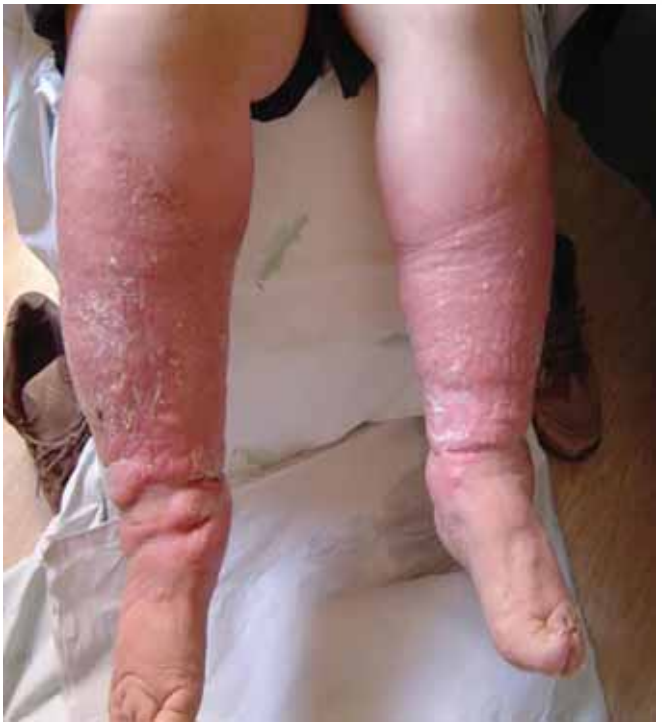
Managing Chronic Oedema

Code: 7LMS0179, Credits: 30, Level: M

This 5-day course has been developed to enable practitioners to consolidate and enhance professional competence and skill in managing patients with chronic oedema and associated skin conditions.

The has course been developed in response to best practice requirements that include supervised practice and formal assessment of bandaging competency.

Students will be supported by a practice supervisor who has relevant experience and skills. You may also choose to study it as part of a longer academic award; MSc Clinical Skin Integrity & Wound Management or Postgraduate Diploma or Certificate.



Content

This course focuses on acquisition of practical skills & management of patients with chronic oedema.

Students will study a selection of topics such as:

- Prevalence and incidence of chronic oedema
- National guidelines, evidence-based practice
- Physiology of oedema formation & skin breakdown
- Risk factors & associated co-morbidities
- Aetiology of chronic oedema/skin manifestations e.g. lymphodema
- Assessment: patient & lifestyle factors investigations
- Advances in therapeutic interventions: skin care, wound care, compression therapy
- Patient centered management, documentation & outcome monitoring
- Patient Quality of Life
- Models of service delivery, referral criteria.

Who Should Attend?

This course is suitable for practitioners with a special interest in chronic oedema management who want to develop & consolidate practical skills.

The course will be of interest to Community Nurses, Tissue Viability and Dermatology Nurses who are managing people with chronic oedema and associated skin conditions on a regular basis.

Assessment

1. Local audit of clinical practice
2. Application of compression bandaging.

Application

Madeleine Flanagan
Programme Leader Skin Integrity
email: m.flanagan@herts.ac.uk
Tel office: 01707 286400
Mobile: 07736 660584

Dates

8th,9th March 2021
17th, 18th May 2021
22nd June 2021 Practical Assessment

Course fee

£1490

Venue

University of Hertfordshire
College Lane Campus
Hatfield, Hertfordshire
AL10 9AB.
www. herts.ac.uk

For further information on
wound management/dermatology courses
contact Madeleine Flanagan
email m.flanagan@herts.ac.uk
Tel +44 (0) 1707 286400

University of Hertfordshire

School of Nursing, Midwifery and Social Work

Leg Ulcer Management: A Competency Based Course

Code: 6HSK0055/7HSK0246, Credits: 15, Level: 6 & 7

Who should attend this course?
A Registered Healthcare Professional, working in a healthcare environment, with access to leg ulcer service provision.

Course Aims
This module aims to enable students to achieve competence in the assessment and management of people with leg ulcers and a greater understanding of the issues involved in delivering effective leg ulcer services. You will need to have access to a clinical area where people with leg ulcers are managed and you will need a suitable Practice Assessor as this is a competency-based module.

Module Content
You will study the aetiology of leg ulcer development and the theoretical principles underpinning the assessment and management of people with leg ulcers and related conditions. You will also study the key elements of effective leg ulcer services.

Assessment
- Coursework: a report on leg ulcer service provision and the extent to which it meets patient needs
- Completion of Practice Portfolio
- Demonstrate competence in Doppler assessment and compression bandaging

Where is the module taught and by whom?
The module is taught at the College Lane Campus and is facilitated by lecturers with expertise in the area from the University and invited external speakers.

How does this module map the NHS KSF?
This module contributes to the development of knowledge and understanding for Core dimensions 1,2,3,4, HWB 1,2,3,5,6 and 7, and IK3

Computer equipment requirement
Delivery of the module will incorporate blended learning which aims to combine e-learning activities with campus-based learning. You will therefor need to have access to a suitable personal computer and a good reliable internet connection (broadband recommended). Most modern PCs or Macs (less than 3 years old) should be suitable.

When does this module run?
Wednesdays in Semester B: January to March
(6 study days)

Sponsorship
A number of employers are entering into teaching contracts with Universities for the provision of postgraduate programmes, short courses and study days. In order to access this source of funding, you should contact the senior manager within your Trust who is responsible for the post-registration/ CPD provision.

Cost
To find out information about the fees visit
go.herts.ac.uk/cpdfees

Course enquiries
Irene Anderson – Module Leader
tel 077209 47306
email i.1.anderson@herts.ac.uk

Booking enquiries
email cpdhealth@herts.ac.uk

Update on the NHS Strategy and lower limb workstream

Dr Una Adderley PhD, RN, DN, QN
Director – National Wound Care Strategy Programme

The seminal Burden of Wounds publication identified that in 2012/13, 2.2 million wounds were managed by the NHS with an annual cost to the NHS of £4.5- £5.1 billion . The publication of a recent update of this study is awaited but a presentation of this work at Wounds UK suggested that since then the burden of wound care has increased, attendances at A & E for wound care have increased and the data shows a younger demographic. The largest proportion of these wounds (42%) are ulcers on the leg or foot [1].

The National Wound Care Strategy Programme (NWCSP) has been funded to address this challenge. Although the NWCSP has key three areas of focus (pressure ulcers, surgical wounds and lower limb wounds) it has become very clear that priority must be on improving care for people with leg and foot ulcers.

In April 2019, the NWCSP consulted on a set of draft recommendations which included some radical proposals around the time frames within which care should happen. The feedback showed overwhelming support for the key proposals but also raised some interesting points. Each item of feedback has been considered by the NWCSP Lower Limb workstream and used to further develop the recommendations. At the time of writing, this next version of the recommendations is out for consultation but given the strong support first time round, it is likely that the main recommendations will stand.

These recommendations propose that patients presenting with 'red flag' symptoms (such as spreading infection of leg or foot or limb threatening ischaemia) should be immediately escalated for care. Care for patients with a foot ulcer and confirmed (or suspected) diabetes should follow NICE Guidance for diabetic foot but the principle of very swift assessment (i.e. within 48 hours) for diagnosis and treatment should also be applied to all patients with foot ulceration, not just those with confirmed or suspected diabetes. Assuming there are no 'red flag' symptoms, assessment for diagnosis and treatment of wounds on the leg is less urgent but the NWCP is recommending that such patients should receive a comprehensive assessment(including vascular assessment, such as Doppler assessment of ABPI) within 14 days of original presentation to a clinician.

The remaining recommendations following existing NICE [2], [3], [4] and SIGN [5] guidelines but have also incorporated the findings from other national or international guidelines and recent NIHR trials. For example, there is a recommendation that patients with leg ulceration with an adequate arterial supply and no other contra-indications should be offered compression in the form of two-layer compression hosiery kits as first line treatment. [6] The recommendations also recommend that patients with venous leg ulceration should be referred for endovenous ablation surgery [7].

Overall, the key theme of the recommendations is that people with non-healing wounds on their legs or feet should receive much swifter assessment, diagnosis and treatment by clinicians with an appropriate level of knowledge and skill to undertake this care, with rapid escalation to more expert clinicians if there is no improvement.

These recommendations will be challenging for healthcare providers but if care is to improve, early assessment with accurate diagnosis and appropriate treatment is essential. We need to address the existing barriers to good lower limb care and identify levers to drive quality improvement. This will be the focus for the next stage of the NWCSP work. The recently announced CQUIN for assessment, diagnosis and treatment of leg ulcers for community nursing services is welcome but will not be sufficient to drive the system-wide change that is needed, especially as many patients are seen in general practice where CQUINs do not apply. However, it is an encouraging start.

The tissue viability community has been campaigning for this change for years, but we are now stepping up action to get the message out to patients, commissioners and policy makers. The signs are good that such people are listening and open to implementing this change. Working together, we can make the improvements that are badly needed.

References

[1] Guest, J. F., Ayoub, N., Mcllwraith, T., Uchegbu, I., Gerrish, A., Weidlich, D., Vowden, K. & Vowden, P. 2015. Health economic burden that wounds impose on the National Health Service in the UK. Downloaded from http://bmjopen.bmj.com/ on January 4, 2016 - Published by group.bmj.com.

[2] NICE (2018) Clinical Guideline Peripheral Arterial Disease (CG147) https://www.nice.org.uk/guidance/cg147

[3] NICE. (2016). Clinical Guideline - Diabetic foot problems: prevention and management. [CG19] https://www.nice.org.uk/guidance/ng19

[4] NICE (2014) Clinical Guideline - Pressure ulcers: prevention and management. Clinical guideline [CG179] https://www.nice.org.uk/guidance/cg179

[5] SIGN. 2010. Management of chronic venous leg ulcers - a national clinical guideline. https://www.sign.ac.uk/sign-120-management-of-chronic-venous-leg-ulcers.html

[6] Ashby, R. L., Gabe, R., Ali, S. et al 2014. VenUS IV (Venous Leg Ulcer Study IV). Health Technology Assessment. https://www.journalslibrary.nihr.ac.uk/hta/hta18570/#/full-report

[7] Gohel, M. S., Heatley, F., Liu, X. et al. (2018) A Randomized Trial of Early Endovenous Ablation in Venous Ulceration. New England Journal of Medicine. https://www.nejm.org/doi/full/10.1056/NEJMoa1801214

Reflections on the management of leg ulceration over the last 25years in the UK

Based on a presentation given at the Leg Ulcer Forum Conference 2019

Christine Moffatt CBE, Fellow RCN

Leg ulceration has been recorded in many different societies throughout the ages including the Egyptians, Romans, UK and Europe. In 1805 it was thought that one in five of the labouring population in London were afflicted with a leg ulcer that could be healed if the person was put to bed indicating these were venous ulcers. Other famous sufferers include Henry VIII who was thought to have a post-phlebitic ulcer following an injury that never healed.

Despite this history leg ulceration has never received the attention it deserves and although recommendations for integrated services between primary and secondary care have existed since the early 1990s, these remain patchy in many areas of the UK with the main burden falling on primary care, particularly community nurses.

The first epidemiology studies were undertaken in the UK, Sweden and Australia in the mid 1980s. These studies suggested that 1% of the population would suffer with a leg ulcer within their lifetime and that over three quarters would have a venous ulcer. At this time the concept of healing rates was not on any health agenda and the modern compression systems we now use only began development in the late 1980s, and early 1990s.

Since then research has shown the value of knowing risk factors that are implicated in healing, most importantly large size and long duration. While this knowledge is important it may hide the real issue that a delay in treatment may cause an ulcer to become large and chronic, therefore access to rapid treatment is a key factor.

By the 1990s we began to see the development of recommendations and guidelines from the RCN, Sign Guidelines (Scotland) and NICE guidelines (UK). The Leg Ulcer Forum began in the early 1990s through a desire to support professionals treating patients and to provide accessible and affordable education. The Leg Ulcer Forum also provides a voice in national policy issues in leg ulceration.

Since the early 1990s we have seen an explosion in wound care products and compression although the evidence for many products is not always available. More recently an understanding of the importance of leg ulceration and concurrent chronic oedema has been defined. Since 2006 products for chronic oedema have been made available through the drug tariff prescribing routes. The introduction of nurse prescribing has helped more rapid access to products in the community although many areas choose central methods of purchasing based on local formularies.

The research over the last decades has included randomised controlled trials of dressings compression and surgery for ulcer healing and prevention of recurrence. Compression remains the cornerstone of treatment for healing and recurrence management. However, research has also shown that healing can be assisted through targeted venous surgery and recurrence rates can be reduced when this is provided.

Despite these advances the epidemiology showing an accurate profile of the patient population in the UK is outdated and relies on data from several decades ago. It is likely that patients are more complex with more co-morbidities such as obesity and mobility which are both known to influence ulcer healing. My recent research has shown that over 58% of patients being treated by community nurses in towns in the East Midlands have chronic oedema, with 70% having a concurrent ulcer and over 25% suffering with recurrent cellulitis.

The clinical challenges in providing effective care are complex. Over the last twenty years we have seen the growth of nurse specialists in this area and we are recognised as world leaders in achieving this level of autonomy with many services being totally nurse led. However, the NHS landscape is now so complex that providing seamless care has become very difficult in many areas unless clinical champions from primary and secondary care are able to join to provide integrated care. There are excellent examples of this occurring but in many areas leg ulceration lacks the resource and support from secondary care.

The burden on wound care specialists is also complex and recently due to policy issues the focus has largely been on reducing the incidence of pressure ulceration at the detriment of leg ulceration. The new initiative, Legs Matter, supported by NHS England, is a very welcome response to the need and will help to address many issues we face.

Many organisational challenges are faced when running leg ulcer services. The most urgent is the delay in starting compression therapy because access to recording of an ankle pressure index (ABPI) takes so long due to a lack of trained staff to perform this. In addition, there is a myth that leg ulceration only occurs if the wound is present for over 6 weeks. This is a complete misunderstanding of the problem. The definition of six weeks emerged from the early epidemiology in which public health definitions were required to prevent the wrong classification of acute wounds. Clearly many patients have had more than one episode of ulceration and therefore if a new wound occurs it should be treated immediately and if this occurs will most likely heal within a few weeks of starting compression.

Recurrence rates in leg ulceration are depressingly high and are mainly due to the lack of provision of effective compression and patient belief that it will help them, leading to low adherence rates.

Failure to identify patients with a correctable venous abnormality leads to slow or failed ulcer healing and high recurrence. Many are not referred to surgeons who can correct the venous problem, thereby offering a cure.

The recommendations for effective services are complex and service configuration must always address the geographical context as well as the identification of specialists who can support primary care. Services in the UK may be linked to vascular, dermatology, care of the elderly and other secondary care services according to local need and interest in the area.

While the development and evaluation of compression has been the main driver in improving care there is still much confusion about the terminology used to describe the different systems. Terms such as elastic and inelastic, single and multi-layer are confusing to clinicians. More recently terms such as stiffness have been used to characterise the ability of the system to provide increased amplitudes of pressure when standing and walking which aid venous return. Research is also questioning the dogma of applying a gradient of pressure with evidence that the pressure should be highest at mid-calf to increase the venous ejection fraction and overall venous function.

All the bandage systems in use vary in their characteristics and are highly dependent on the skill of the person applying it to achieve the correct compression profile. More recently in the NHS there is a shift towards supported self-management using compression wraps and hosiery that the patient can apply and remove themselves, This reflects overall health policy and that most people will end up living with a chronic illness that requires a degree of self-care as well as a growing recognition that resources in the NHS cannot keep pace with care provision without this shift of emphasis.

However, many patients with leg ulceration in the community are too vulnerable and frail to be able to undertake self-care. When the ulcer heals nurses are frequently unable to visit them to apply and remove hosiery to prevent recurrence as this is classified as a social care issue. Many patients are not eligible because their situation is not deemed severe enough.

Nurses are often only able to attend if the patient if they have an open wound due to the contractual agreements on the care they can provide. With the reduction of access to social care this is major problem that is contributing to high recurrence rates. While leg ulcer clinics and leg clubs are additional models of care they too are often overwhelmed with patients. In many areas there are increasing numbers of frail elderly who cannot get to a clinic and must receive care at home. The integration of practice nurses in care provision is highly variable across the UK. A similar situation applies to patients with chronic oedema that is a hidden problem in many primary care settings.

In the 1990s specialist courses in leg ulcer management were provided and validated by the English National Boards. Over time these were developed further into degree and master's courses. With the demise of the national boards and changes in universities there was an increasing shift to providing education through tissue viability nurses with much fewer universities engaging in supporting this. Anecdotal information would indicate this is a major challenge for tissue viability teams that are required to maintain the competency of staff with an ever changing work force. This is exacerbated due to the numbers of vacant community nursing posts and the change in skill mix and reliance on agency staff. Increasingly health care assistants are fulfilling the role of applying compression and there is an urgent need to address these issues and the training and competency requirements of a changing work force. In addition, we need clarification on what types of patients can undertake supportive self-management and how we educate and support them in this model.

Key research undertaken recently has shown the huge burden that wounds and leg ulceration place on the NHS. Despite the difficult landscape there is new hope that NHS England has recognised this issue and there is excitement in the development of the Legs Matter campaign which will assist in raising the issues of leg ulceration as well as providing clarity on the many issues discussed above. The Leg Ulcer Forum is actively involved in this initiative and, at the Leg Ulcer Forum conference in 2019 we were delighted to welcome Una Adderley who is leading this work and a great campaigner for improved care.

A Healthier Future for Tissue Viability

Heidi Sandoz, Tissue Viability Services Lead
Hertfordshire Community NHS Trust

Back in 2017, specialist nurses, working within the field of tissue viability and lymphoedema within Hertfordshire, met to discuss the inequalities in leg ulcer and non-cancer lymphoedema provision caused by the way services had been commissioned historically. For example:

- Specialist community leg ulcer services were only provided in small areas across the county, meaning that elsewhere people with leg ulcers were managed with no support from any specialist services unless they were referred to secondary care

- Patients in Hertfordshire, living with non-cancer lymphoedema or chronic oedema were having to source management outside of the county, as the local lymphoedema service had only been commissioned to provide support for people with lymphoedema secondary to cancer, whilst ironically this same service was commissioned by West Essex to provide support for their population with non-cancer lymphoedema.

At the same time a light was shone onto the impact of sub-optimal leg ulcer care with the publication of Betty's Story (NHS Right Care, 2017), a fictional patient scenario which highlighted the detrimental effects, not only on an individual with leg ulceration, but also through to the huge costs to the health economy. The inequity in treatment provision for those with leg ulcers and chronic oedema / lymphoedema, identified by the specialist nurses in Hertfordshire, was considered to be potentially creating many "Bettys" locally.

The specialist nurses therefore needed to find a way of highlighting the unwarranted variation within Hertfordshire so that it could be addressed. Sustainability and transformation partnerships (STPs) had just been created across England in 2016, bringing local health and care services together to plan how to meet the long-term needs of their local communities. STPs had been tasked with agreeing what the priorities are for their residents, running services in a more coordinated way, and collaboratively planning how to improve the health of this population. Thus these STPs seemed to provide the perfect vehicle for collaboration.

The specialist nurses approached the provider partnerships for Hertfordshire and West Essex STP, the local STP, to ascertain if they could link into one of their subgroups. The Frailty work stream accepted a proposal to improve outcomes for these patient groups, and a large and collaborative stakeholder group was formed. Subsequently, a public health needs analysis has been commissioned and carried out (Walton, 2019) providing valuable information about the local population, their level of frailty and the costs involved in their care. Wound care pathways, a digital wound passport and dressing supply programmes are being developed for implementation across the STP.

The focus of the needs analysis was to obtain local data relating to six conditions: leg ulcer, lymphoedema of the lower limb (excluding cancer related), chronic oedema of the lower limb, cellulitis of the lower limb, diabetic foot ulceration and foot ulceration. The STP population is 1.5 million people served by 3 CCGs, 160 GP practices, 3 acute, 2 community health and 1 mental health care provider.

The needs analysis has demonstrated that, amongst the target population:

- Cost burden for the STP economy exists
- Variation in access to treatment and specialist services exists
- Pllreventative care is lacking
- Inpatient activity has steadily increased over the last 5 years
- The percentage of patients with moderate or severe frailty is higher than the national average
- Over 80% have one or more long term conditions
- Cellulitis is linked to both leg ulceration and lymphoedema
- Hospital episode admission costs for primary diagnosis (leg ulcer, non-cancer lymphoedema and cellulitis) were in excess of £5.3million per annum
- Where these diagnoses were a secondary reason, hospital episode admission costs exceeded £29 million

The needs analysis has successfully demonstrated that, in line with national findings (Guest, 2015), there is a need for improved focus and service provision, with a drive towards prevention and early intervention particularly for the lymphoedema/ chronic oedema group.

A model of service delivery has been designed to provide a framework to work towards. This considers the following:

- The need for underpinning delivery with an educational and training programme, to include carers
- The promotion of self care
- Pathways to support the required level of management to be delivered at the right time by the right person, which may include the person themselves, a vascular surgeon, a specialist nurse, etc.
- A digital wound passport (APP) that is accessible by all, be that the person themselves, their family or their health care provider and that integrates with existing electronic care record systems
- A system wide approach to dressing and compression therapy supply
- The need to align to Primary Care Networks (groups of GP practices working in collaboration with other local providers)

Using the needs analysis and the clinical pathways we will consider the workforce needed for implementation as well as the level of competence and training needed for each member of the population and "worker " within the pathways ("workers" will include e.g. the public, voluntary workers, fire fighters, social care providers, pharmacists, doctors and nurses in all settings).

There will be specialised support accessible to the neighbourhood population within each primary care network, with highly specialised support available to multiple networks. Pathways will clearly define when a person needs access to highly specialised or medical/surgical services thereby reducing delays to investigations and treatments when they are needed.

Communications around prevention will be wide, informing the population of the role they can play in reducing the likelihood of leg/foot ulceration and cellulitis in their future.

It is proposed that the digital passport will be widely advertised and accessible to all providing advice and guidance on prevention, self-management and where to seek help when this is needed. Data will be harvested from the information gained from the app.

Dressings will be accessible, preventing delays in access to, for example, antimicrobial products, as well as ensuring their appropriate use.

Delivering this via the STP provides a co-ordinated multi organisation approach to delivery. Where gaps are identified ways of addressing these gaps are considered and if required a commissioning need is identified. Each organisation is committed to delivering the pathways within the Frailty work stream and there is clear engagement in recognising the benefits for both the population and the economy.

Current delivery timescales are fluid, but we hope to have started to implement pathways across the system by 2021.

Leg Ulcers Documentation and the Coroner

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Introduction

When pressure damage contributes to cause of death, it will be subject to a coroner's inquest. Anecdotally, inquests have also been held when the development of pressure damage, whilst not considered to be a contributing factor, was suggested to have contributed to the person's decline, described as "losing the will to live".

However, inquests held where the cause of death was related to leg ulcers do not appear to be so frequent. This article will consider the role of the coroner, the importance of assessment and documentation and discuss inquests where leg ulcers have been implicated in the cause of death.

The Coroner and Inquests

The coroner's jurisdiction is limited to determining, who the deceased was and when, where and how the deceased came by their death. All deaths are reported to the coroner and in cases where the death is either sudden with unknown cause, violent, or unnatural, the coroner will decide whether to hold a post-mortem examination and if necessary, an inquest, for which, the coroner may decide to form a jury (Gov.uk 2020)

When someone dies as a direct consequence of a wound, this cannot be classed as a natural cause, so in order to issue a death certificate, the coroner may wish to explore in detail the circumstances surrounding the development of the wound and details of its management. As such, the coroner may wish to appoint an expert witness to examine the patient records and advise the coroner on the care afforded to the deceased in respect of the wound. If it is decided at inquest the wound has more than likely contributed to the death, the coroner will form a narrative version of cause of death. The coroner will also seek to establish, that if alternative care had been afforded to the deceased, in respect of the wound, on balance of probabilities could the death have been avoided (Crown Prosecution Service 2019)

If you have been involved in delivering care to the deceased, you may be asked for a witness statement and be summonsed to attend the inquest to give evidence under oath. You will be guided and supported by your legal team, who will help you in developing your witness statement. You do need to remember your duty is to the coroner who requires your help in determining the circumstances surrounding the cause of death. The coroner may not have a medical or health background. The role of the inquest is almost a fact-finding mission, it is not about apportioning blame. Under Rule 42, concerning the verdict, no verdict shall be framed in such a way as to appear to determine any question of either criminal or civil liability (The Free Dictionary).

The coroner will want to establish who you are, where you work and your qualifications. He/she will then ask you questions relating to your statement, which may be followed by questions from any legal representatives present and possibly the family who may be present if not legally represented. It is important that you only state facts when giving evidence and if you do not know the answer to a question, it is quite alright to say you do not know, do not feel you have to give an answer, especially if it is outside your area of expertise.

Often the inquest may be months, or sometimes years, after the death of the person, therefore, you will be absolutely reliant on your records for your evidence to provide an account of your involvement in the persons care.

Documentation

When considering the documentation of wounds, it is worth considering some potential problems, such as a lack of description. For example, 'leg red' documented without any other information to support this statement, makes it impossible to establish any potential causes of why the leg is red. Therefore, it is important to expand on the

observation of the 'red leg' and if two different descriptions are considered:

- Firstly, an area of redness extending throughout the gaiter region, not painful but with symptoms of itching and the patients feels well in self.

- Sudden increase in redness, extending from the wound edge, area feels hot and patient complaining of pain.

Clearly these two descriptions give a very different picture/account of the redness and provides some indication of the underlying cause. The same could be said for 'leg swollen/oedematous';

- Both legs oedematous, extending from the ankle to the gaiter area, patient reports this gets worse towards the end of the day.

- Both legs oedematous and involves the feet but patient reports this is not as bad in the morning.

- Both legs oedematous and extends above knees, when asked if this improves overnight, patient reports they are not going to bed.

The assessing person may ask questions to ascertain the above but actual recording of this in the documentation is often lacking. A few extra words to the documentation provide a wealth more detail to identify contributing factors and possible causes.

Often when documenting care delivered to a wound, there is a lack of evidence in the records to support any actions to address or escalate the particular wound problem. For example, this could be increased malodour, pain and or exudate related to wound infection, which has been raised in legal claims for compensation when someone has developed a wound infection. There may have been a change in the wound dressing used, because the clinician considered the wound to have a bacterial problem, or the previous dressing was not effectively managing the exudate, but they failed to document the rationale for using a different wound dressing.

Remember, record-keeping is an integral part of your practice (NMC Code, 2018) and is essential to the provision of safe and effective care and should be viewed as a communication system, not just a record of evidence that a task has been completed therefore:

> ***Documentation is a record of your assessment, what you saw and the treatment you used, which must be based upon your assessment. This then provides an accurate communication system for others involved in caring for the patient, so the treatment of the wound can be evaluated to see if it has been effective.***

All wounds should have an individual care plan developed, such as when managing bilateral lower leg ulceration and the care plan should contain the evidence base for the treatment given.

Leg ulcers and the Coroner

Some evidence of leg ulcer cases known to have required an inquest and resulting in the coroner issuing a regulation 28 – action to prevent future deaths, have related to treatments used in managing leg ulcers, rather than the actual wound directly contributing to cause of death. For example, the use of paraffin-based emollients leading to an accumulation of paraffin on clothing and bedding, which has acted as an accelerant when in contact with a naked heat source, such as may occur if smoking in bed. Cause of death 1a. Multi Organ Failure and 1b Extensive Cutaneous Burns and the coroner concluded death due to accident.

A further inquest related to leg ulcer treatment covered the case of an 83 year old female prescribed potassium permanganate soaks for her leg ulcers but instead of diluting the tablet in water to soak her legs she was given the potassium permanganate tablet to take orally.

Often these cases are reported in the national news:

grandad died after contracting pneumonia combined with an infection from a long-standing leg ulcer, an inquest was told..... nurses failed to change the dressings on his leg ulcers..... transferred to other hospital and was...described as being septic on his admission to the General. The Coroner formed a narrative determination, suggesting a man in his condition (the deceased) should have had the closest attention. A spokesperson the Hospital Trust said that the leg dressings were not changed on time on one occasion, indicating it was "a one-off event rather than a systematic failure".

This finding would suggest if we fail to change a dressing on a specified day the wound will become infected. Clearly this is not the case and it is likely the documentation would have featured in the investigation. Good documentation should have clearly identified the dressing regime and rational and any factors associated with increased risk of infection. This may have improved communication concerning wound requirements and avoided the risks which led to the death. Anecdotal evidence would suggest that poor documentation and communication feature in many Root Cause Analysis and is often identified as an area in need of improvement.

It may not be as simple as just providing evidence of your care to the coroner. Law firms are actively advertising their services for wound infections and also medical negligence cases where someone has died as a result of wound sepsis with adverts such as:

If your loved one has died after developing sepsis from a leg ulcer, it is possible that there is a case of medical negligence. For example, there may be a case of negligence if a patient seeks medical help from their GP for an infected leg ulcer, but antibiotics are not provided. There may also be a case of negligence if a GP fails to detect the signs of sepsis, despite seeing a patient on a regular basis.

Can you claim for a sepsis death?

To find out whether your loved one died because of negligent medical care, you need to talk to a solicitor who specialises in clinical negligence claims. A solicitor will be able to tell you whether there was a substandard level of care, whether this affected the eventual outcome, and whether you are able to pursue legal action against the GP or hospital at fault.

Although making a claim cannot undo the harm that has been done, it may help to provide some form of redress. It will also ensure you can recover the finances lost because of the negligence, something which will be very important for a spouse or children who were dependent upon the deceased's income/pension.

So your evidence may be required in a court of law and remember your evidence is essentially your documentation.

The coroner may ask of an expert witness:

Was the community nurse's management of the leg ulcers adequate?

This question was raised in an inquest into the death of an 80 year old female (Mrs R) whose medical history included: previous cerebral vascular accident, transient ischaemic attacks, hypertension, atrial fibrillation, type II diabetes mellitus, varicose veins, venous eczema and rheumatoid arthritis. Mrs R's medication included: amitriptyline, glicazide, ramipril, sitagliptin, atorvastatin, adcal D3, paracetamol, peptac liquid and digoxin. Insulin was commenced during a hospital admission in an attempt to improve glycaemic control.

The following summarises how Mrs R's leg ulceration started and the subsequent steps its management:

- Mrs R was seen by her general practitioner (GP) at the end of January, at which time Mrs R had a small 'scratch' on her leg. The GP noted that Mrs R also had oedema but there was limited detail about the oedema.

- The community nurses visited the next day (1st February), when a 0.6 by 0.6 cm wound was noted which was leaking. The description of the leaking was documented as +++. This could indicate a high level of exudate but can be subjective to

the individual undertaking the assessment. There was no other supporting documentation of the oedema or the type of exudate.

- By the 5th of January, the original wound had enlarged and Mrs R now had wounds to both legs. A leg assessment was undertaken on the 9th of January, but the only aspect documented was the outcome of the Doppler ultrasound; an ankle brachial pressure index (ABPI) of 0.98 was obtained bilaterally. It was supplemented with the foot pulses being recorded as sounding either biphasic or triphasic, but the names of the vessels where the signals were heard were not documented. There was little detailed description of the appearance of the legs, observed skin changes or measurements of the circumference of the limbs but the wounds dimensions were measured.

- Following assessment, a reduced three-layer compression bandage system was used. With an ABPI of 0.98 this would normally indicate sufficient arterial blood flow to enable a higher level of compression (40mm/Hg pressure at the ankle) to be used. There was no rationale why a reduced compression system was used but this may have been influenced by Mrs R's significant history of arterial disease. Furthermore, as the circumference of the limbs was not documented the decision may have been related to ankle measurements, if Mrs R's ankle circumference was below average size.

- Wound healing was monitored regularly but there was a lack of detail of any description of the appearance of the wounds or the surrounding skin. Antimicrobial dressings were used intermittently but again without clear rationale and Mrs R also had a number of systemic courses of antibiotics.

- On the 3rd of April, it was documented the wounds were 'improving and almost dry and scabbed'. Therefore, the wounds were healing but had taken over two months to get to this stage.

- Throughout the documentation there were references to Mrs R not being happy with the bandages, finding them uncomfortable and occasionally removing them, refusing to have all three layers applied and not resting and elevating her legs and as a result, Mrs R was considered 'non-concordant'. However, there was limited documentation to describe any conversation with Mrs R explaining why the bandages and leg elevation were required. This ultimately led to her bandages being left off by the community nurse visiting on the 10th of April, who recorded 'patient fed up of bandages so left off to give the wounds a chance to heal'

- Following this, there was rapid deterioration in both legs and by the 24th of April one wound measured 7cm by 6cm and leaking was documented to be problematic and causing Mrs R to remove her dressings.

- This deterioration prompted a referral the following month to the tissue viability service (TVS) and Mrs R was seen by a tissue viability nurse (TVN) on the15th May. The ABPI was not repeated but the arterial vessels were located with the Doppler and the TVN concurred with the community nurse that the signals were biphasic and triphasic, with capillary refill of two seconds, indicating good arterial refill. As a result of Mrs R's reluctance to have the bandages on her legs, the TVN recommended two layers of hosiery, which each provide 10mm/Hg ankle pressure. However, Mrs R did not like the hosiery and did not tolerate this at all, so hosiery was never used effectively and Mrs R was therefore later referred back to the TVS.

- A different TVN visited Mrs R on the 3rd June and recommended a bandage kit which provides 40mm/Hg ankle pressure. This TVN documented her discussion with Mrs R about the rationale for compression and the need to have good bed rest and leg elevation along with dietary advice. Within one week, there was evidence of good improvement in the wounds.

- Mrs R was admitted to hospital on the 20th June, due to a bleed from the ulcer, and was treated with antibiotics for infection. There was limited information available from the acute hospital records to describe the wounds but there was evidence the bandages had not been removed until the third day of admission, when Mrs R was found to have a discoloured heel, which subsequently developed into a pressure ulcer. During this admission Mrs R was commenced on Insulin due to ongoing problems with hyperglycaemia. Compression bandaging was not reinstated during Mrs R's admission and when discharged on the 7th July Mrs R just had wound dressings held in place with light retention bandaging.

- Throughout Mrs R's care there were repeated episodes of using topical antimicrobial dressings but with poor rationale provided and regular wound swabs had been taken which were consistently growing Staphylococcus Aureus and Pseudomonas Aeruginosa. The antibiotics had caused diarrhoea and Mrs R was now developing moisture lesions.

- Mrs R was readmitted to hospital on the 9th August, with further cellulitis and required intravenous antibiotics. During this admission Mrs R was seen by a vascular nurse who described Mrs R's ulcers as: 'bilateral leg ulceration, right leg almost circumferential, unable to palpate pulses but reasonable Doppler signals suitable for light compression' and three-layer bandaging was recommended. It is not clear if there was any documentation about the rationale for reduced compression, or if there was any conversation or advice given to Mrs R about the need for compression bandaging.

- Mrs R was discharged on the 24th August, when the community nurse took a wound swab as the wounds were reported to be malodorous. There was no documented evidence of a change of treatment following this observation and no documentation that the results of the swab were followed up.

- In the witness statement from the community nurse, she described possible bone or tendon visible in the wound on the 7th August, which she reported to the team leader. There was no documented evidence in the patient's records of this but a further TVN referral was made. There was no change in treatment documented or earlier visit arranged and at the next visit, on the 9th June, there was 10cm to 11cm of exposed tendon visible in the wound.

- Mrs R was readmitted to hospital the same day with possible cellulitis. Once in hospital the bandages were not removed by the hospital staff until four days after admission, as her legs had been redressed on the day of admission, it was assumed the bandages would not require changing. When the bandages were removed it became clear there was severe infection in the limb and Mrs R was transferred to an alternative hospital with a vascular unit where she underwent a Gritti Stokes amputation. Two weeks after surgery Mrs R developed an infection at the amputation site and required surgical revision. Mrs R subsequently heart failure and died on the 1st November.

Reflection

In this case there was some evidence of good practice including the timeliness of the assessment of the wound as a leg ulcer rather than a 'skin tear' and the undertaking of an ABPI. However, this assessment lacked some important detail, which would have improved the picture against which subsequent nurses could monitor the situation. Further ongoing assessments also lacked detail and not just around wound assessment but other aspects such as monitoring the taking and impact of systemic antibiotics and also advice offered to the patient, for either of these there was little detail documented.

Poor communication featured in this case and as documentation is an important communication system was it the documentation that failed? Poor documentation is nearly always considered an issue in most investigations and often result in recommendations for improvement. Some of the communication would have been interaction

between the nursing staff and the patient, relative or carer and how this dialogue was undertaken and assessed for effectiveness. Should there be concerns about the 'labelling' of someone as being non-concordant? Could this kind of language in documentation lead to negativity?

Education is clearly an important aspect of leg ulcer management and this case could raise questions regarding the level of education of the nurses undertaking the management of the wounds on a day to day basis. This is of national concern and there needs to be clear description of what abilities and expertise are required for the different clinical aspects of leg ulcer management such as; assessment, bandaging (simple and compression) and even skin care. However, this education needs to include how to ensure effective communication across all care providers. This is essential to avoid patients being admitted to a different health care provider and the bandaged leg being overlooked, which happened in this case. This should also consider effective dialogue with the patient.

Conclusion

This demonstrates a case where the management of a lower leg wound was being questioned by a coroner and an investigation required to establish if poor leg ulcer management contributed to the persons demise. For a patient with such significant comorbidities, which included the major risk factor of diabetes and poor glycaemic control, at any time they could face a crisis concerning their wound. Therefore, different outcomes would be impossible to predict.

Listening to verbal evidence is an essential and very important aspect in a coroner's court, as was found in this case and clearly if documentation had been better then the need for the inquest and the need to provide verbal evidence may have been avoided. It cannot be stressed enough how important documentation is that this should not be viewed as a necessity to provide 'evidence' of what you have done but a necessity for communication.

References

Gov.uk (2020) https://www.gov.uk/government/publications/guide-to-coroner-services-and-coroner-investigations-a-short-guide

Crown Prosecution Service (2019) https://www.cps.gov.uk/legal-guidance/coroners

The Free Dictionary
https://medical-dictionary.thefreedictionary.com/Coroners+Rule+42

Pyoderma Gangrenosum

An Overview of a Rare Condition

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Pyoderma gangrenosum is a rare treatable cause of skin ulceration. It is not a type of gangrene. Pyoderma gangrenosum is not contagious and cannot be transferred from person to person' ***(British Association of Dermatologists, 2016)***

The first description of this condition is attributed to Brocq in 1908, following his reporting on a series of patients (Farhi, 2008). According to Farhi (2008), Brocq described three elements of the ulcer:

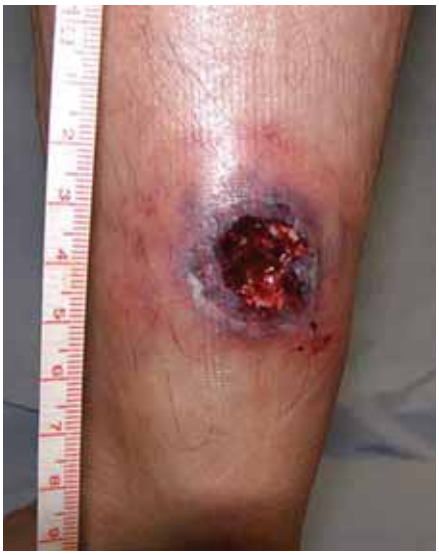
1. Having a ridge which had features of regular geometric, circular or elliptic pattern.

2. An external sloping border which may be painful and with features of erythema and infiltration.

3. The internal slope of the border, typically vertical with purulent cavities and a tendency of undermining.

At this time Brocq called the condition phagedenisme geometrique. Ruocco et al (2009) note that further characterisation and naming of the disease did not occur until 1930, when Brunsting, Goeckerman and O'Leary stated that Pyoderma gangrenosum (PG) was an uncommon, neutrophilic, ulcerative skin disease. At the time the disease was thought to be linked to infection in either the bowel or lungs (ulcerative colitis or empyema). Increased understanding of the condition since then has resulted in PG being categorised into 8 different types **(see Table 1)**.

Diagnosis of PG, and which type it is classified as, is generally based on clinical and pathological features and by exclusion of other diseases (Conrad and Trueb, 2005) **(see Tables 2 and 3)**.
As with any patient presenting to a health care professional, a thorough assessment is key. The disease can be unpredictable, with some patients experiencing rapid progression from initial presentation to ulceration (Ruocco et al 2009). Therefore failure to assess can cause delay in treatment or more seriously expose the patient to unnecessary risks through wrongful treatment with toxic medication. Ruocco et al (2009) also highlighted the increased risks for those with chronic disease, as this was found to have a higher risk of mortality of up to 30%.



Pyoderma gangrenousum on the lower limb - picture reproduced with permission from Kirsty Mahoney

Epidemiology

Ruocco et al (2009) stated that the incidence of PG is unclear but estimated to be 3-10 patients per million per year. The most common age to present with PG is between 20 and 50 years, although it can occur at any age. PG is thought to occur more in females than males (Jorizzo et al 1988). Most patients will have multiple lesions with the lower limbs being the most common site with classic PG (Mlika et al, 2002). Fifty per cent of cases are associated with underlying systemic disease such as inflammatory bowel disease (IBD), arthritis and lymphoproliferative disorders, e.g. leukaemia and lymphoma (see table 3) (Ruocco et al, 2009).

Aetiology and Pathogenesis

According to Ruocco et al (2009) the aetiology of PG is unknown and pathogenesis is not clearly understood, but up to 50% of patients have some immunological abnormality. There is some evidence to support the theory of minor trauma, insect bites or surgical procedure such as wound biopsy, being linked to lesion development in patients know to have PG. This would suggest immune dysregulation, which would include neutrophil dysfunction and an overexpression of interlukin-8 and 16 (Bennett et al, 2000).

Clinical presentation

Hadi and Lebwohl (2011) published a case review of 30 patients with PG. The results give an insight into the complexity of PG and the difficulties of giving a definitive description of the disease. 16 of the cases described ulcers with either unilateral or bilateral leg involvement and some with sites of ulceration in other areas of the body. Only one review reported peristomal lesions and the remaining 13 cases involved hands, arms, genitals, trunk, head, mouth and lung without any peristomal or leg involvement.

Type	Presentation	Treatment
Ulcerative – classic presentation	Very painful, large areas of ulceration with a purulent base and undermined borders surrounded by a halo of enlarging erythema	Aggressive systemic immunosuppressive therapy
Pustular	Discrete painful sterile pustules (0.5-2 cm in diameter) with a surrounding erythematous halo.	The eruption usually improves with treatment of any underlying IBD
Bullous	Evolves rapidly, superficial painful vesicles and enlarging bullae, with central necrosis, erosion and a surrounding halo of erythema	Systemic immunosuppressive therapy (prognosis is poor if there is an association with haematological malignancy)
Vegetative	Superficial ulceration, without purulent base or undermining of the edges. Slow progression	Will respond to topical, intralesional or less aggressive systemic therapy
Peristomal	Skin lesions in the peristomal area in patients with ulcerative colitis or Crohn's disease who have an ileostomy or colostomy	
Genital	Vulva, penile or scrotal	
Infantile	Perianal and genital areas	
Extracutaneous	Lungs heart, central nervous system or other internal organs can be affected in the absence of cutaneous lesions	

Table 1: Different types of Pyoderma gangrenosum (adapted from Bennett et al 2000)

Type	Alternative
General Differential diagnosis	Drug reaction Halogenoderma Factitial dermatosis Cutaneous neoplasms
Ulcerative pyoderma gangrenosum	Systemic vasculitis • Wegener granulomatosis • Mixed cryoglobulinemia • Polyarteritis nodosa • Antiphospholipid-antibody syndrome • Livedo vasculitis Infections • Sporotrichosis • Amebiasis • Syphilitic ulceration • Ecthyma gangrenosum • Others - Insect/spider bites - Neoplasms - Ischaemic ulceration
Early lesions	Behcet disease Panniculitis Malignant processes: • Primarily T-cell lymphomas - Other cutaneous neoplasms
Pustular pyoderma gangrenosum	Pustular vasculitis Various infections including gonococcal septicaemia Folliculitis • Herpetic • Others Pustular drug eruption
Bullous pyoderma gangrenosum	Sweet syndrome Insect/spider bite Acute cellulitis Various bullous dermatoses
Vegetative pyoderma gangrenosum	Infections: • Mycobacterial • Sporotrichosis Cutaneous neoplasms

Table 2: Differential diagnosis (adapted from Conrad and Trueb, 2005)

Disease group	Condition
GI tract	Ulcerative colitis
	Crohn's Disease
	Diverticulosis
	Gastritis
	Gastric/duodenal ulcers
	Biliary cirrhosis -primary
	Polyps – intestinal
	Chronic active hepatitis
Joints	Rheumatoid arthritis
	Ankylosing spondylitis
	Osteoarthritis
	Polychondritis
Haematological	Leukaemia
	Myeloproliferative syndrome
	Hyperglobulinaemia
	Thrombocythaemia
	Splenomegaly
	Myelodysplasia
	Dysglobulinaemia
	Congenital hypogammaglobuliemia
	Monoclonal hypergammaglobulinaemia
	Myeloma
	Waldenstrom syndrome
	Lymphoma
Collagen-vascular	Takayasu's disease
	Wegener's granulomatosis
	Systemic lupus erythematosus
	Necrotising vasculitis
	Rheumatoid uveitis and scleritis
Neoplasia	Cancer
	Carcinoid tumour
Infectious	Post-traumatic
Miscellaneous	Thyroid diseases
	Diabetes
	Diseases of the lung

Table 3: Diseases associated with Pyoderma gangrenosum (adapted from Ruocco et al 2009)

Detailed history: • Pain, rapid progression of ulcer, trauma and type of skin lesion preceding ulceration • Symptoms of associated disease • Medication history
Physical examination: • Characteristic features of ulcers • Detail of lesions - Location type, size, outline and depth • General examination
Skin biopsy (including cultures) with the aim to rule out diagnosis that mimic PG
Laboratory investigation to identify associated disease or to rule our diagnosis that mimic PG • CBC and ESR • Blood chemistry (liver and kidney function tests) • Protein electrophoresis • Autoantibody screen, including antiphospholipid-antibodies and ANCA
Others as dictated by type of PG and likelihood of systemic disease • Chest x-ray • Venous and arterial function studies • Endoscopy, bone marrow aspirate • CT scan if deep abscesses are likely

Table 4: Assessment (adapted from Conrad & Trueb, 2005)

Lesions on the lower leg are generally classic (ulcerative) PG, with bullous PG more commonly found on the upper extremities (Bennett et al 2000) (see Table 3). In 1930 Brunsting et al described the presentation of PG to include lesions having been present for more than four weeks, with the following presenting factors:

- Tender pustules/papules
- Crater like holes, with undermining at the border
- Purulent discharge
- Cribriform scarring
- Pathergy
- Systemic comorbidities with a strong link to inflammatory bowel disease

Assessment

As highlighted earlier, diagnosis is difficult and therefore a thorough detailed history must be taken from the patient as outlined in Table 4.

Diagnosis

Hadi and Lebwohl (2011) concluded that, in diagnosing PG, anatomical position should be included in addition to lesion features and any associated diseases. This approach continues to support the theory of exclusion to reach a possible diagnosis. Maverakis et al (2018) published new recommendations and diagnostic criteria following a Delphi consensus of international experts. The results identified one major criteria and 8 minor criteria to aid diagnosis of PG. (see Figure 1). Maverakis et al (2018) confirmed that this diagnostic aid has been validated using retrospective studies, achieving high sensitivity and specificity; although they recognise that further research and validation using prospective studies is required. The panel's recommendation was that when using the diagnostic criteria, a positive result from the 1 major criterion is required as well as a minimum of 4 of the 8 minor criteria. Maverakis et al (2018) confirmed that this diagnostic aid has been validated using retrospective studies, achieving high sensitivity and specificity, although they recognise that further research and validation using prospective studies is required. However, at this stage, when using the diagnostic criteria, clinicians must identify 1 major criterion and a minimum of 4 of the 8 minor criteria.

Treatment

Ruocco et al (2009) highlighted that there have been few controlled trials of the treatment of PG. This could be due to the fact the PG is still relatively rare in the population and the condition is not really understood. Generally the treatment plan depends on the size, location and depth of the ulceration and any underlying associated disease. The age and health of the patient will also have some bearing as some of the treatment approaches can be aggressive with many side effects. The main goal of treatment is to reduce the inflammatory process of the wound to support healing and the reduction of pain. Local or topical treatment

may be used and this could include systemic corticosteroids and cyclosporine (see Table 5). Conrad and Trueb (2005) suggest that in some cases surgery may be considered in conjunction with immunosuppression. Other therapies that may be considered are platelet-derived growth factor and cell culture grafts if epithelialisation is slow. Biologics such as Infliximab have also been shown to work and can be useful in patients with IBD as this medication can improve both conditions (Brooklyn et al 2006). There are side effects to using this therapy, the most common ones being fatigue, fever and gastrointestinal discomfort. More uncommon ones include anxiety, delayed healing, heart failure, lupus and peripheral ischaemia. However, Ruocco et al (2009) suggest that it should be considered for those patients resistant to other treatment options, giving due consideration to the selection and monitoring of patients when be treated with Infliximab.

For patients with leg ulceration, a full holistic assessment needs to be carried out including ABPI (Ankle Brachial Pressure Index) or Duplex scan for those experiencing high levels of pain. At the time of writing there do not appear to be any studies on the use of compression in patients with leg ulceration but clinical experience would suggest that the use of compression therapy would help patients with ulcers and oedema. This may need a multidisciplinary team approach involving specialist services, such as dermatology, vascular services and pain clinics, to reach a point where the patient is able to have the most appropriate treatment for their PG with good pain relief and a level of compression that they can tolerate.

Conclusion

In conclusion, PG remains a complex and unpredictable disorder and for some patients it may prove fatal. For the clinician, diagnosis remains difficult although recent development of the consensus document will hopefully lead to greater clarity, assuming that this will be widely adopted.

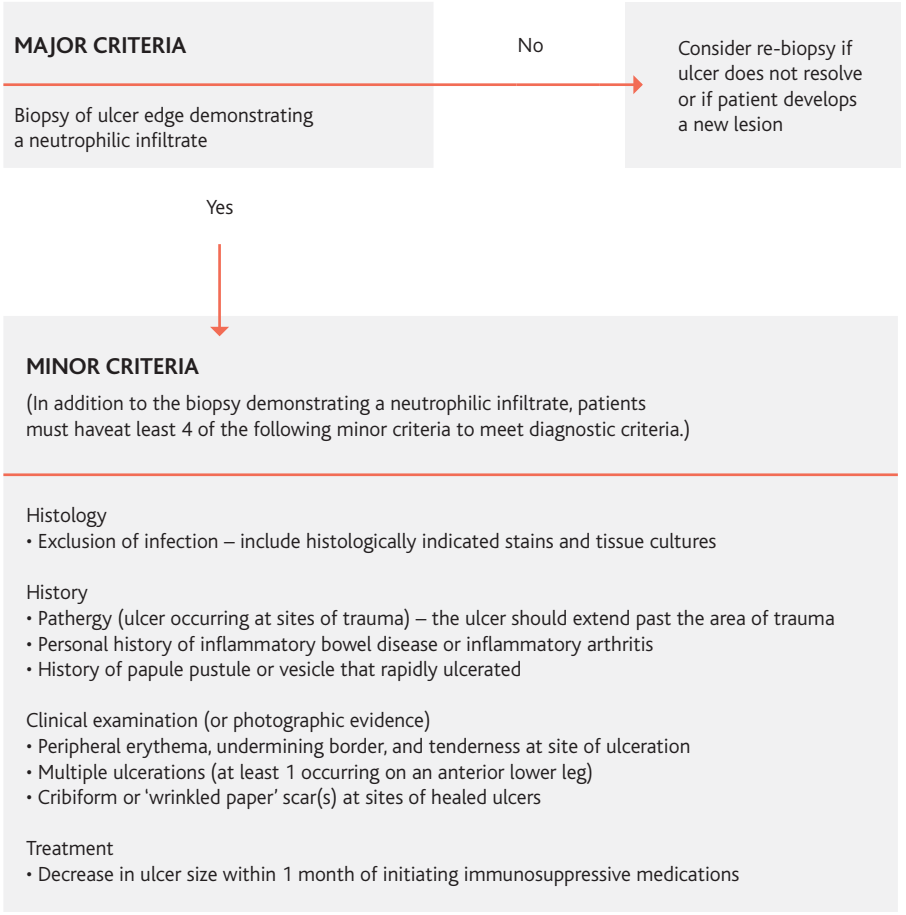


Figure 1: Diagnostic criteria for classic pyoderma gangrenosum (adapted from Maverakis et al, 2018)

Route	Treatment
Topical	Strong steroid preparations OR Calcineurin inhibitors (e.g. Tacrolimus)
Systematic	Antibiotics (e.g. Minocycline) OR Antimycobacterial (e.g. Dapsone) Steroid tablets (Prednisolone) Immunosuppressive medication • Mycophenolate mofetil • Ciclosporin • Azathioprine
N.B. severe cases may require:- Cyclophosphamide, IV Steroids, Immunoglobulins or Biologic treatments	

Table 5: possible treatments for pyoderma gangrenosum (adapted from BAD, 2016)

References

Bennett, M.L., Jackson, J.M., Jorizzo, J.L., Fleischer, A.B., White, W.L., Callen, J.P., (2000) Pyoderma gangrenosum. A comparison of typical and atypical forms with an emphasis on time to remission. Case review of 86 patients from 2 institutions. Medicine (Baltimore), 79(1), 37-46

British Association of Dermatologists (2016) Pyoderma Gangrenosum – patient leaflet. Retrieved 19 December 2019 www.bad.org.uk/leaflets

Brooklyn, T.N., Dunnhill, M.G.S. Shetty, A., Bowden, J.J., Williams, J.D.L.,Griffiths, C.E.M., et al (2006) Infliximab for the treatment of pyoderma gangrenosum: a randomised, double blind placebo controlled trial. Gut 55, 505-509

Brunsting, L.A., Goeckerman, W.H., O'Leary, P.A., (1930) Pyoderma (ecthyma) gangrenosum: clinical and experimental observations in 5 cases occurring in adults. Arch Dermatol Syph 22, 655. Retrieved 17 December 2019.

Conrad C., Trueb RM., (2005) Pyoderma gangrenosum. J Deutsch Dermatol Ge 3, 334-342

Farhi, D. (2008) Notable Notes: The clinical and hisopathological description of geometric phagedenism (pyoderma gangrenosum) by Louis Brocq one century ago. Archives of Dermatology, 144(6), 755.

Hadi, A., Lebwohl, M. (2011) Clinical features of pyoderma gangrenosum and current diagnostic trends. Journal of the American Academy of Dermatology, 64, 950-954.

Jorizzo, J.L., Solomon, A.R., Zanolli, M.D., Leshin, B. (1988) Neutrophilic vascular reactions. Journal of American Academy Dermatology, 19(6), 983-1005

Maverikas, E., Ma, C., Shinkai, K., Fiorentino, D., Callen, J.P., Wollina, U., Marzano, A.V. et al (2018) Diagnostic criteria of ulcerative pyoderma gangrenosum: a delphi consensus of international experts. Journal of the American Medical Association, 154(4), 461-466.

Mlika, R.B., Riahi, I., Fenniche, S., Mokni, M., Dhaoui, M.R., Dess, N., Dhahri, A.B.O. & Mokhtar, I. (2002) Pyoderma gangrenosum: a report of 21 cases. International Journal of Dermatology. 41(2) 65-68.

Ruocco, E., Sangiuliano, S., Gravina, A.G., Miranda, A. & Nicoletti G. (2009) Pyoderma gangrenosum: an updated review. European Academy of Dermatology and Venereology, 23, 1008-1017.

Coffee Time

Q	W	D	R	A	I	N	A	G	E	A	S	T	I	N	E	A	K	L	Z
X	C	V	B	N	M	A	N	U	A	L	F	G	H	I	S	K	L	M	N
O	P	Q	R	S	A	U	V	X	L	Y	M	P	H	A	T	I	C	Z	A
S	D	Z	A	I	N	T	G	E	P	O	I	U	C	H	R	O	N	I	C
T	A	T	R	O	P	H	I	E	V	T	G	B	Y	H	A	U	V	M	I
B	L	A	N	C	H	E	K	O	J	U	Y	H	N	B	T	T	P	F	G
V	E	C	D	W	S	X	Q	A	N	J	Y	N	H	T	E	G	E	V	F
R	C	P	O	S	T	W	A	Q	P	A	I	U	Y	T	G	E	D	Q	L
K	P	H	L	E	B	I	T	I	C	D	L	L	X	Z	Y	W	I	R	G
Y	J	C	A	R	E	U	H	T	F	E	S	C	A	W	S	E	S	R	F
T	G	Y	H	U	J	I	K	P	I	G	M	E	N	T	A	T	I	O	N
C	D	W	O	U	N	D	Q	E	F	V	P	R	O	G	R	A	M	M	E
W	N	A	T	I	O	N	A	L	D	G	T	S	A	L	Z	B	U	R	G
N	M	H	T	R	E	C	U	R	R	E	N	C	E	C	B	O	A	R	D
R	D	E	N	G	L	I	S	H	A	D	T	H	U	J	N	M	K	L	P

1. Name of the UK programme with funding to address the problem of chronic wounds?
2. Henry the VIII is thought to have suffered from?
3. Areas of scarring often associated with previous leg ulceration?
4. Body responsible for approving courses in leg ulcer management in the 1990's?
5. Staining of the skin?
6. Term used for a long standing condition?
7. Compression hosiery is used to prevent?
8. Christian Doppler was born in?
9. MLD stands for?
10. Common infection of the lower extremities?

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