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Review article

The strength of the online vascular community during the COVID-19 pandemic

Simona Sica^{a,*}, Cheong Jun Lee^b, Jason Chuen^c, Connie Zastrow^d,
Kathryn E. Bowser^e, Patrick Fon Sen Chong^f

^aUnit of Vascular Surgery, Fondazione Policlinico Universitario Gemelli Istituto di Ricovero e Cura a Carattere Scientifico, Università Cattolica del Sacro Cuore, Largo Agostino Gemelli, 8-00168, Rome, Italy

^bDivision of Vascular Surgery, NorthShore University Health System, Evanston, IL

^cDepartment of Vascular Surgery, Austin Health, University of Melbourne, Melbourne, Victoria, Australia

^dPeace Health, Bellingham, WA

^eChristiana Care Health System, Newark, DE

^fFrimley Health NHS Foundation Trust

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ABSTRACT

The spread of coronavirus disease 2019 has drastically altered the medical landscape and profoundly affected the way we conduct our vascular surgery practices. The pandemic was a time of change, not only in the way health care was provided, but also in how people in the health care systems interacted. Social media has rapidly become a crucial communication tool, combining physical distancing and digital connectedness. This article provides an overview of the use of online platforms in vascular surgery as a response of our community to the pandemic.

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1. Introduction

The spread of coronavirus disease 2019 (COVID-19) has drastically altered the medical landscape and profoundly affected the way we conduct our vascular surgery practices. Guidelines from the Society for Vascular Surgery and the American College of Surgeons for the triage of vascular conditions highlight the role of vascular surgery as part of the whole-of-medicine approach to this challenge. In order to preserve hospital beds, personal protective equipment, and other resources to be able to accommodate the surge of COVID-19–positive patients, vascular surgeons around the world have cancelled elective and semi-elective vascular cases.

But the pandemic was a time of change, not only in the way health care was provided, but also in how people in the health care systems interacted. In times of hardship, uncertainty, and fear, community is more important than ever. However, community and social distancing are not incompatible. During a time of limited contact with others, social media became an important place to interact. Thanks to the internet, we can maintain and grow the bonds of community among us, even while physically isolated.

This article provides an overview of the use of online platforms in vascular surgery, as a response of our community to the COVID-19 pandemic.

2. Online community in numbers

Digital, mobile, and social media have become an indispensable part of the everyday lives of people all over the world.

* Corresponding author.

E-mail address: simonasica1@gmail.com (S. Sica).

Table 1 – Number of followers of the main vascular surgery-related accounts across Twitter, updated on May 5, 2021.

| Variable | Twitter account | Followers, n |
|--|-----------------|--------------|
| Vascular societies | | |
| Society for Vascular Surgery | VascularSVS | 8,114 |
| European Society for Vascular Surgery | ESVSmembership | 3,333 |
| Vascular Society of Great Britain and Ireland | VSGBI | 2,879 |
| Canadian Society for Vascular Surgery | CanadianSVS | 792 |
| British Society for Endovascular Therapy | BSETnews | 1,507 |
| Australia and New Zealand Society for Vascular Surgery | anzsvs | 715 |
| RSM Venous Forum | ForumRSM | 114 |
| Training | | |
| SVS Future Vascular Surgeons | FutureVascSurgn | 3,199 |
| UK Vascular Surgical Trainees–The Rouleaux Club | RouleauxClub | 1,799 |
| European Vascular Trainees Society | EVST_ESVS | 818 |
| Journals | | |
| <i>Journal of Vascular Surgery</i> | JVascSurg | 6,661 |
| <i>European Journal of Vascular and Endovascular Surgery</i> | EJVES_ESVS | 4,601 |
| <i>Annals of Vascular Surgery</i> | avsgjournal | 1,335 |
| Vascupedia | | |
| Audible Bleeding podcast | vascupedia_com | 2,494 |
| Conferences | | |
| Audible Bleeding podcast | AudibleBleeding | 1,711 |
| Conferences | | |
| Veith Symposium | VEITHsymposium | 4,059 |
| CX Symposium | CXSymposium | 311 |
| LINC Meeting | LINCmeeting | 403 |
| Charities | | |
| Vascular Cures | vascularcures | 1,759 |
| Circulation Foundation | CircFoundation | 1,126 |

Abbreviations: CX, Charing Cross; LINC, Leipzig Interventional Course; RSM, Royal Society of Medicine; SVS, Society for Vascular Surgery.

There were 4.66 billion people using the internet in January 2021, up by 316 million (7.3%) from last year during the same period. Global internet penetration now stands at 59.5%. In 2020, a year in which the majority of the world population was in lockdown, social media users grew at the fastest rate in 3 years, to 4.20 billion. This figure has grown by 490 million during the past 12 months, delivering year-over-year growth of >13%. The number of social media users is now equivalent to >53% of the world's total population [1].

Social media has profoundly impacted health care. It serves as an important aid to patients by both providing an easily accessible platform to complement information provided by health care professionals and facilitating formation of patient communities that provide psychosocial support. Currently, >40% of health care consumers use social media for their information needs, especially among consumers who are in the 18- to 24-year-old age group compared to the 45- to 54-year-old age group. Ninety percent of health care consumers in the 18- to 24-year-old age group use social media and rely on health care-related information found online [2].

Moreover, the majority of health care providers are users of social media platforms, and it is reported that 87.9% of health care professionals have an active engagement in social media [3].

Social media postings related to cardiovascular health and diseases cover a wide spectrum. An analysis of English-language Tweets originating from the United States between 2009 and 2015 revealed that 550,338 Tweets were associated with cardiovascular diseases, most frequently related to risk factors (42%), awareness (23%), and management (22%) [4]. Table 1 shows the number of followers of the main vascular

surgery-related accounts across Twitter, updated on May 5, 2021.

3. The role of social media

Social media are digital technologies that facilitate the conception and sharing of information, ideas, career interests, and other forms of expression via virtual communities and networks [5]. The power of social media is enabling users to connect with those of similar interests, share professional information, and create a “virtual debate” among experts in a field. For vascular specialists specifically, the online platforms can help to identify trends in vascular diseases and changes to clinical practice more quickly and efficiently compared to the inherent lag encountered in waiting for published research. All of the online platforms represent an opportunity to share cases, meet others globally and disseminate research results.

A recent study showed that sharing/exchanging ideas with other professionals, chat discussions, following conference highlights, and health care agency alerts are the most frequent uses of social media [6]. This is similar to another study that highlighted the five ways social media is used by health care professionals, including sharing information, improving quality, training, live updates during interventions, and communication through times of crisis [7]. Ventola [8] also described social media in health care for professional networking, education, promotion, patient care and education, and public health programs.

However, there are some down sides related to the use of social media, in particular in the scientific and health care

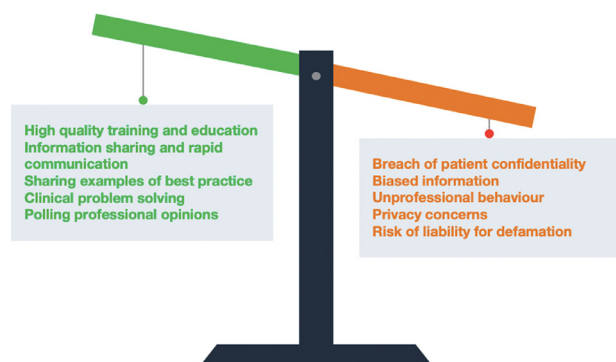


Fig. 1 – The pros and cons of social media in health care.

context (Fig. 1). Recently, Ladeiras-Lopes et al [4] described the principal disadvantages of social media in this context: inaccurate or biased information, privacy concerns, breach of confidentiality, and nonprofessional social media use. The careless use of social media can lead to serious consequences, such as the risk of liability for defamation. Official statements on social media etiquette and rules for physicians exist from health care organizations, professional societies, and regulatory agencies [9].

COVID-19 is the first global pandemic of the digital era. Social media has rapidly evolved with the pandemic, not only as a crucial communication tool to disperse information but as an essential means to construct a support community to overcome physical distancing with digital connectedness. Clinicians have been experiencing multiple COVID-19–related stressors, highlighting the continued need for peer-support programs promoting well-being during and after the COVID-19 pandemic [10]. In times of crisis, peer-to-peer support is essential and use of social media during this pandemic demonstrated not only a significant evolution in the way in which information is developed and shared, but how personal interactions and psychosocial support mechanisms have developed.

In addition, educational paradigms in residency had to change dramatically in the scope of the pandemic. Universal cessation of elective operations has had and will likely continue to have a profound impact on current vascular medical education and training [11,12]. Ilonzo et al [13] reported a decrease of 77% in case volume for vascular senior residents and a decrease of 75% for vascular junior and mid-level residents. Social media and digital platforms were and are currently used to fill this training gap, and include access to webinars from world-renowned experts, increased implementation of surgical simulation, and selective redeployment of residents to favor level-appropriate learning opportunities [14]. Next to discussions around congresses and publications, an important aspect of peer-to-peer communication in the health care sector is the sharing of educational cases or rare findings [4].

4. Social media in the vascular community

Several active online communities have been developed and used by the vascular community during the COVID-19 pandemic. Vascular social media is changing the landscape of

vascular surgery. Despite physical distancing, within several days, vascular surgeons coordinate online through social media with their colleagues all over the world to assess the impact of the pandemic on patient outcomes. This has led to the inception of the Vascular Surgery COVID-19 Collaborative (VASCC) research registry, which aims to study the issues and impacts of the pandemic on the vascular surgery specialty through two research projects: “Impact of COVID-19 on Scheduled Vascular Operations” and “Thrombotic Complications of COVID-19” [15]. Also, the Vascular and Endovascular Research Network (VERN) launched the COVID-19 Vascular Service (COVER) study, which aimed to capture global data on vascular practice during the pandemic [16].

The WhatsApp Vascular Surgeon COVID-19 group was one of the earliest social media communities that arose at the onset of the pandemic. WhatsApp itself is an instant messaging application created in 2009 and acquired by the Facebook family of companies in 2014. It is used mainly with mobile devices, but also runs on desktop computers. The WhatsApp Vascular Surgeon COVID-19 group has now reached more than 250 vascular surgeons from all over the world actively sharing ideas, information, clinical protocols and techniques, and personal experiences. The WhatsApp Vascular Surgeon COVID-19 community’s discussions naturally segued into efforts to collect key research data related to the impact on the provision of vascular care and outcomes of vascular disease during the crisis.

Other social media platforms being used by vascular surgeons include LinkedIn, Twitter, and Facebook.

Currently 57,643 multidisciplinary professionals list “vascular surgery” as a skill on LinkedIn. Of these, 15% ($n = 8,846$) are part of the group “Vascular & Endovascular Surgery,” the third largest group for a surgical specialty on LinkedIn. The group is managed and edited by a vascular surgeon from the United Kingdom and is now the largest group for any surgical specialty on LinkedIn, with more than 22,232 members and growing at the rate of 20 new members daily. It is not affiliated with any national vascular societies and does not have any sponsorship ties to industry. It exists solely to promote awareness of the specialty and has a multidisciplinary membership of professionals interested in business, education, and research relevant to vascular and endovascular surgery. In 2020, a LinkedIn poll looking at a global survey of the management of venous thromboembolism risk during endovenous surgery was presented as an abstract in the prize session of the ESVS (European Society for Vascular Surgery) Month 2020 Meeting.

In 2020, Think Tank Aorta, a non–industry-sponsored voluntary project was formed to help intentionally organize the large volume of available educational material posted by vascular surgery social media outlets to make it more searchable with peer-validated hashtags, such as “#AortaEd.”

Facebook remains one of the most widely used social media platforms, reported to be used by 69% of adults in the United States [17]. The physician community has no shortage of Facebook groups for any given field or subset, including women in surgery and women vascular surgeons. The GLOVES Facebook Group has connected women vascular surgeons in a powerful and engaging way. The group was started in 2018 as a forum for women vascular surgeons and trainees to share ideas, offer support, and serve as a virtual consult in real time

for surgeons facing unusual clinical situations. Discussions in the forum have spanned a broad range of topics and issues from indications and nuances of anticoagulation, fostering leadership and mentoring, and commiserating when similar clinical issues are encountered by group members.

The Society for Vascular Surgery responded to the educational needs with "The Vascular Surgery Podcast," including interviews with leaders in the field of vascular surgery, best clinical practices, and discussions on high-impact innovations [18]. The podcast "Audible Bleeding" is promoted primarily via Twitter and is now granted a wider audience than more traditional conventional methods of delivering continuing medical education.

Vascupedia is a nonprofit, nonaffiliated organization delivering education in vascular surgery. It is also promoted primarily via social media and digital media and has gained a rapid following worldwide.

Vascular surgery social media also helped to highlight issues of implicit bias in our profession during the "#medbikini" incident. It resulted in the hashtag #medbikini going viral (including on CNN) causing the venerated *Journal of Vascular Surgery* to retract the controversial flawed article and issue a formal apology, including action to increase representation and diversity on their editorial boards.

One of the most significant benefits and features of these social media groups with regard to peer support in the vascular community is essentially having 24/7 access to an instant consult with experienced online peers who may be able to lend support and guidance when encountering a challenging clinical scenario. The sharing and dissemination of knowledge as it pertains to the evolving experience with COVID-related arterial thrombotic complications has exemplified the benefits of these social media connections and the easy and near-instantaneous access to vascular surgery peers. This ability to communicate in real time about novel, and often challenging and devastating, experiences with arterial complications of COVID and other complex patient management scenarios that have resulted as a result of the global pandemic continues to be one of the most valuable aspects of engaging in social media connections for vascular surgeons. Importantly, all such clinical interactions and discussions can be achieved while maintaining patient confidentiality.

In an increasingly digitalized era, whereby information is accessed mainly via portable devices, institutions, organizations, and professionals in vascular surgery should review and invest in their social media strategy. Those that do not face a lack of visibility and thus a deficit of peer and public awareness of their roles in the specialty. There is also lost opportunity to engage with current issues and provide their unique voice and advocacy in matters that are important to our specialty.

5. Conclusions

The global COVID-19 pandemic ushered in new challenges in every milieu of human interaction. For health care professionals, delivery of care and expedient dissemination of information in the context of social distancing mandated significant changes in how we exchange clinical and personal experi-

ences, and novel information meaningfully with new framework. Social media has provided an important component of that framework and, not surprisingly, has brought the vascular surgery community together. Overall, online vascular community and peer-to-peer support networks have been essential for the current practicing vascular surgeon.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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