

Analysis of Popular Social Media Addressing Breast Augmentation, Implants, and Anaplastic Large Cell Lymphoma

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Background: Social media is part of modern life, for better or worse. Patients seek counsel on treatments, their side-effects, and the surgeon performing the surgery. Previous study has found several “dos” and “don’ts” regarding social media. The aim of this study was to specifically look for social media posts addressing breast augmentation, breast implants, and breast implant associated anaplastic large cell lymphoma (BIA-ALCL). The aims of this study were to examine social media posting regarding BIA-ALCL and to analyze the ways general public receive information regarding this disease.

Methods: A prospective analysis of 3 popular, global social media networks was performed, using the key phrase in English “anaplastic large cell lymphoma” or “ALCL” or “#ALCL.” Three hundred posts related to breast cancer published on Instagram, YouTube, and Facebook in June 2018 were assessed by the following parameters: author identity, subject, “social media currency” (likes, shares, comments), presence of special effects (videos, photographs, research, etc.).

Results: Most posts were posted by professional entity (ie, plastic surgeon, company, or general practitioner), with YouTube being the social media least used by patients ($P < 0.001$). Facebook was the only social network that had more posts authored by non-professional authors ($P < 0.001$). Social currency did not change between the professional and non-professional authors. The highest return for investment was seen on Instagram ($P < 0.001$, “likes” only). YouTube, having the most posts published by professionals, was more positive toward breast augmentation and the use of implants ($P < 0.001$).

Conclusions: Social media is here to stay and not a trend. It is a tool for the patient when searching for treatment and surgeon. It would be wise to invest and understand these communication platforms, since this is where our patients are, and the way they are researching. (*Plast Reconstr Surg Glob Open* 2021;9:e3571; doi: [10.1097/GOX.0000000000003571](https://doi.org/10.1097/GOX.0000000000003571); Published online 10 May 2021.)

INTRODUCTION

The use of social media and social networks is part of modern life. More people are using those channels to get information, including information regarding health procedures and surgeries.^{1,2} In fact, it has been shown that

using social networks can make it easier for patients^{3,4} and increase awareness.^{5,6}

Plastic surgeons are known to possess qualities such as creativity and adaptability to new techniques and technologies, which are advantageous to the patient. There is an increase in social media usage by breast cancer patients,⁷ but doctors and especially many surgeons are still learning how to use this tool effectively.^{8,9} Patient-centered portals such as Healthgrades and RateMDs give users the ability to both find and share information about physicians.

Studies have investigated the prevalence of “fake news,” and misguided information and have shown that more than a third of the sites that present information about breast augmentation contain false or misleading information.^{10,11}

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A previous study done by our group found a relation between the author’s identity (eg, plastic surgeon, company, or celebrity) and social currency, and the use of specific network and the amount of social currency received.¹

METHODS

A prospective analysis of 300 posts on 3 popular and global social media networks was performed. A search for English-language posts using the key phrase “anaplastic large cell lymphoma” or “ALCL” or “BIA-ALCL” was conducted on Facebook and YouTube, and with the hashtag “#ALCL” or “#BIA-ALCL” on Instagram during 1 week of June 2018. Exclusion criteria included indecipherable posts, re-posts, and posts unrelated to the terms used in the search. The first 100 recent posts on each of the 3 social media platforms that answered the criteria above were selected for a total of 300 posts. Each post was assessed by 2 separate plastic surgeons for the following parameters: author identity, theme (self-promotion, education, commercial, personal post, other. Each post could be classified in several categories), “social media currency” (likes, shares, comments), and attitude toward breast augmentation and implants (positive, negative, neutral).

Student’s t-test was applied for continuous variables, and analysis of variants (ANOVA) for several groups. Chi-square test was used for categorical variables analysis. *P* value of 5% or less was considered statistically significant. The data were analyzed using the SPSS (version 23; SPSS Inc., Chicago, Ill.).

RESULTS

Three hundred posts related to breast cancer on 3 different popular social media sites, including Facebook, Instagram and YouTube, were analyzed during one working week of June 2018. Most of the posts on Facebook were published by non-professional authors (52), but other social media had most posts published by professionals (53 and 73, Instagram and YouTube, respectively). The complete description of authors’ identity is listed in Figure 1.

The overwhelming majority of posts dealing with breast implant–associated anaplastic large cell lymphoma (BIA-ALCL) were educational, with 85%–93% of all posts classified as such. Instagram had 3 posts that were personal posts, and 12 self-promotion posts. The difference between the social networks was not statistically significant.

Attitude toward breast augmentation and implants was very similar on Facebook and Instagram, with 42%–45% and 45%–46% positive mentions, respectively. However, on YouTube the overall mentioning of breast augmentation and implants was more positive, with 66% of post supporting the use of implants and breast augmentation (*P* = 0.007). Attitude to breast augmentation and implants is presented in Figure 2.

YouTube tended to be a more physician-centered media, with no sources mentioned other than the physician explaining the subject (60% of posts, *P* = 0.06). It was also the least patient-centered media, with posts relaying personal stories representing only 11% of the posts

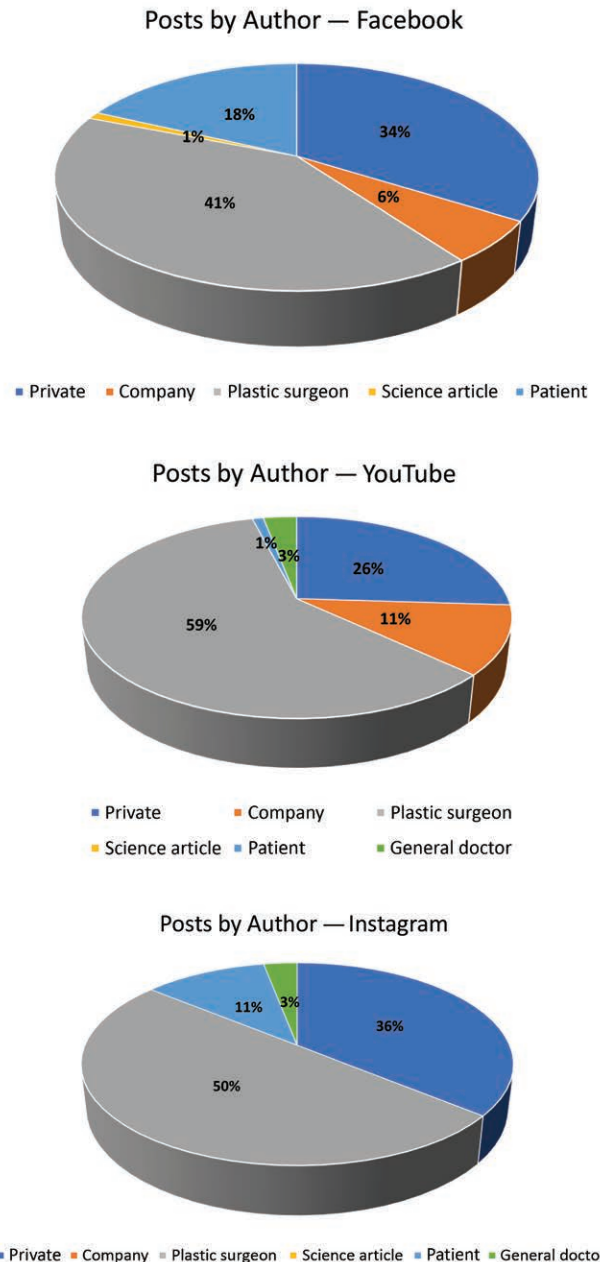


Fig. 1. Posts by different authors, per social network.

analyzed, compared with 23% on Facebook and 26% on Instagram (*P* = 0.04). Full analysis of sources is in Table 1.

Social media currency is the influence of the post on other users of the social network. It can be measured by positive interactions (“likes”), sharing the content and comments on the post. When analyzed by the identity of the author, there was no difference between all authors (*P* = 0.16–0.67), emphasizing the egalitarian nature of the social networks. Nevertheless, Instagram posts were getting more attention, but only in the “like” amount (*P* < 0.001). It is worth noting that Instagram and YouTube shares were not analyzed. Full Social currency parameters and comparison are in Table 2.

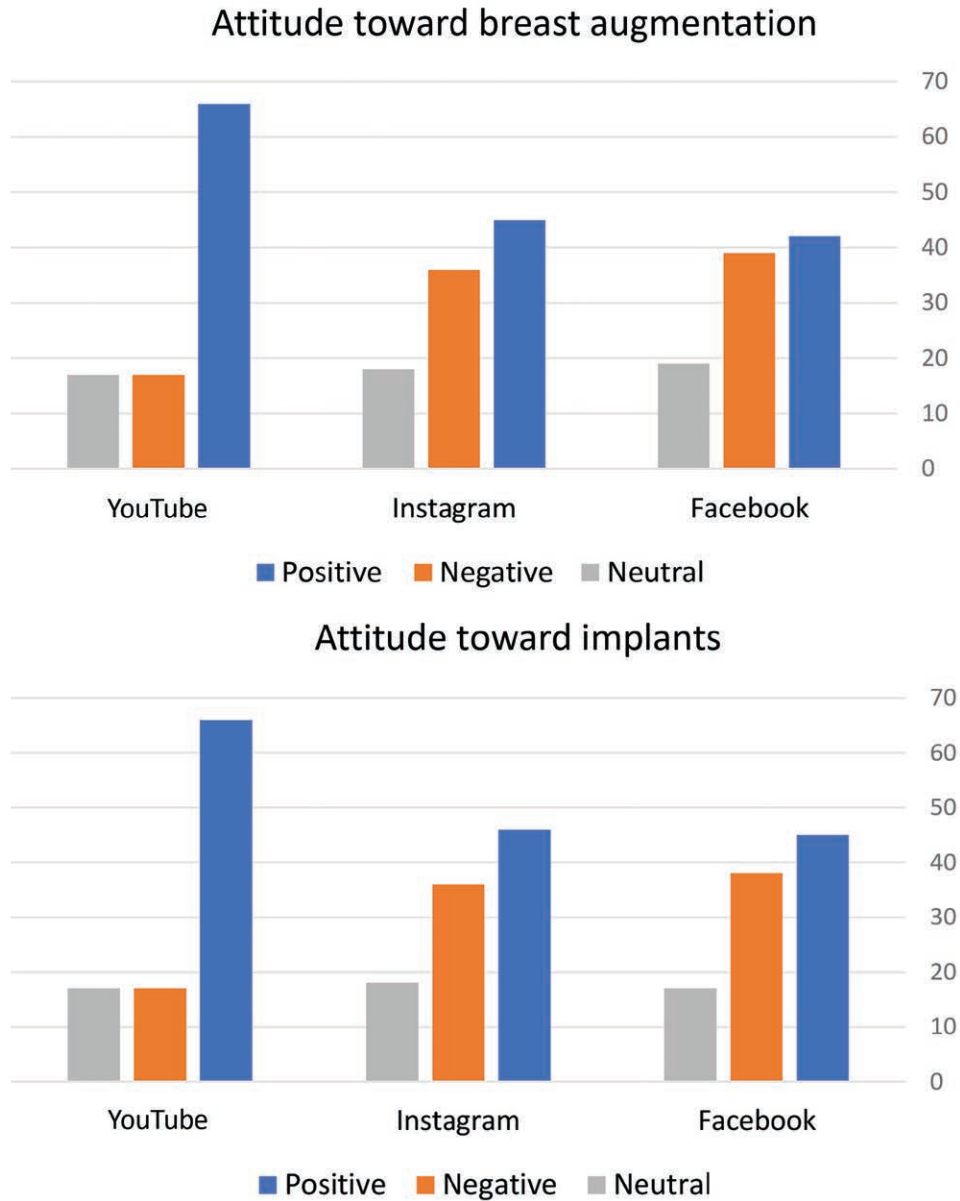


Fig. 2. Attitude toward breast augmentation and use of implants.

Table 1. Sources of Posts by Social Network

	Facebook	Instagram	YouTube	P
Science paper	12	9	9	0.73
Internet article	16	18	17	0.93
Personal story	23	26	11	0.04
Personal knowledge	8	7	3	0.3
Physician explains	41	40	60	0.06

DISCUSSION

The Internet, along with social media networks, has become an integral part of modern society, including the medical profession.²⁻⁶ Social media has become an important source of information for patients who expect personal medical care with an ongoing patient-physician relationship and instant online availability.

BIA-ALCL is a highly professional area, and as such, many patients feel unsure about this disease, its course, and treatments.¹² Nevertheless, BIA-ALCL has a lot of social traction, with patients actively seeking treatments for that disease.¹³

Unlike the previous study by our group, most posts in the study were by a professional author, being a doctor or a company.¹ Nevertheless, plenty of patient-centered information

Table 2. Social Currency by Author and Social Network

	Likes	Comments	Share
By authors' identity			
Private	33.67	6.33	2.66
Company	25.53	7.82	6.24
Plastic surgeon	73.11	3.01	0.35
General doctor	51.33	4	0
Science article	171	24	69
Patient	41.93	7.7	3.73
<i>P</i>	0.67	0.47	0.16
By social network			
Facebook	16.04	4.42	6.14
Instagram	132.14	6.62	0
YouTube	12.27	3.57	0
<i>P</i>	<0.001	0.4	NR

exists on the social networks, especially on Facebook and Instagram. It is worth noting that YouTube stands out as a more professional-authored source. There are 2 explanations for this phenomenon. The first is that BIA-ALCL is a rare phenomenon; thus, not so many patients have an input regarding this subject. In contrast, all plastic surgeons are familiar with this entity. Thus, there is a knowledge gap between the general public and the surgeons, which balances the scale and even tilts it in favor of a reliable source—the professional authors. The second reason why YouTube stands out is the relatively high minimum investment needed to post a video on YouTube. In our previous study, 75% of all content on YouTube was published by a professional author. With that in mind, and due to the highly specialized field of BIA-ALCL, it is not surprising that YouTube stands out as the most professional-authored media.

On the other hand, an advantage of Facebook and Instagram is the more direct connection with the target population. that can be seen by the social currency per post on those networks. While a YouTube video, requiring a lot of time investment, got 12.27 likes on average, an Instagram photograph got more than 10 times that currency— 132.14 likes, and a Facebook post got 1.33 times that currency, 16.04 likes per post. Those data emphasize the connection of people to a more direct and easier to digest information. Furthermore, it is our hypothesis that the more personal stories on Facebook and Instagram (23 and 26, respectively), in contrast to YouTube,¹¹ have generated more attachment and influence.

It is worth noting that the identity of the author did not change the amount of social currency a post got. On the one hand, such data are encouraging. It means that with the right concept of a post, one can get a lot of traction and influence. On the other hand, that means that the general public is not aware (or does not care) of the authors' identity and is willing to give the same influence to each post. The authors' interpretation of that data is that we cannot choose the "playing field." Our patients are on social media, looking for answers. It is the role of the professional to supply the right information, in a way that both attracts and educates the patients.

BIA-ALCL is a concerning issue among our patients. Nevertheless, there is a loss of misinformation and disinformation on social media. The plastic surgeon who decides to address this issue must do it in the proper way, relevant to each medium. Analyzing the top 5 posts on each medium to get the most social currency reveals the nature of each social

Table 3. Dos and Don'ts When Addressing BIA-ALCL in Social Media

Do
✓ Use Instagram
✓ Cooperate with patients, and use their real picture
✓ Use personal story or patients' story
✓ Be informative and educational
Don't
☒ Use YouTube as the first "go-to" social network
☒ Be self-promotional
☒ Use jokes

network. Facebook's top 5 has 2 posts that mention BIA-ALCL, but the main focus is on breast-implant-associated illness (BII) and not on BIA-ALCL. BII was not mentioned in a top 5 post on any other social network. Instagram's top 5 included informative and educational posts, with 3 of them using a female patient photograph. Two posts of the Instagram top 5 were of private authors, and 3 were plastic surgeons. YouTube's top 5 had one company post, 1 private post, and 3 posts by plastic surgeons. Combining all these data has led the authors to suggest "dos and don'ts" regarding BIA-ALCL and the social media, presented in Table 3.

CONCLUSIONS

BIA-ALCL is a malignant disease. As such, one would think it should be the subject of "serious" and educational videos. Our data suggest that even in the "heavy" subjects such as BIA-ALCL, there is a room and need for use of the more patient-centered posts and stories, as those are the ones that gather the most interest. Those patient-centered posts can be the gateway to the more educational videos, resulting in a more informed patient.

Social media is here to stay. It is not our role to decide where our patients gather their information. It is our job to be where they decide to look for information and supply the right information, in the most palatable way.

This is not limited to the subject of BIA-ALCL alone. As plastic surgeons, our field is full of details requiring specialty and learning. Understanding each platform, its audience and topics relevant to it will let us know the "how to do" in relation to the specific combination of platform and subject. In turn, knowing the "how" will allow us to educate our patients and allow for a better understanding of the procedures being performed.

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