

Botox: More than just a treatment for wrinkles

Literature Review

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Although Botox is historically known as a treatment for facial rhytids, commonly referred to as wrinkles, researchers have found over 20 different medical uses for the substance created from the Botulinum toxin (Anguita, 2015). These uses range from treatment of migraines to newly reported pain relief methods as well as the treatment of hyperhidrosis (Callus, Sciortino, & Higgans, 2016). The stigma associated with using a toxin to treat a multitude of medical diagnoses has seemed to hinder its use for years. But as one of the most studied medications on the market to date, botox has become a preferred treatment for several conditions that were previously without viable treatment options.

Botox: The new ‘wonder drug’?

In this article, Anguita (2015) discusses the dangers of using Botulinum toxin. She also refers to its ability to cause death with a seemingly minuscule dose. The report then goes into detail on the mechanism of action as well as therapeutic uses of the toxin. Anguita sheds light on research being performed to combine the medication with other products to create new applications with fewer side effects. Furthermore, many of the malpractice suits from the use of Botox have occurred when the toxin is used off-label for treatments with little to no foundational research.

Key Points

The author outlines both the benefits and risks of using botox and emphasizes that the

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medication should be used only by medical professionals and only for approved conditions. Additionally, Anguita (2015) mentions several studies that are in the works that could further enhance the use of the medication. These issues include chronic pain, epilepsy, weight loss, premature ejaculation, cerebral palsy, and depression. Emphasizing the numerous treatment possibilities with this medication, Angia states "For some people, Botox has offered relief when nothing else could, and for others, there is hope" (2015, pg 8). Early in the article, the high cost seems unfavorable, but more towards the conclusion, it is mentioned as an alternative to even more costly surgeries.

Assumptions

Although Botox's use in cosmetics may seem widely known, the author operates under the assumption that the readers of this article understand the cosmetic applications. Anguita (2015) also references conditions such as cerebral palsy, epilepsy, and several other diagnoses without explanation of the diseases. The author also mentions the cost of the toxin being outrageous but does not mention the price of treatments discussed. These assumptions have a way of leaving the reader confused about many sections of the article.

Deficit/Conclusion

Starting with alarming statistics about the potency of Botox and further mentioning the ability to wipe out the population with a single "kilo," Anguita (2015, pg. 6) presents information

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about Botox from both the angle of devil's advocate as well as a supporter. The author presents success stories showing improvements made in the quality of life of patients able to use Botox to treat their condition. This conclusion is further supported in an article by Vikelis et al (2018), who concludes that Botox injections from the treatment of chronic migraines improve the quality of life of the patient. Furthermore, she highlights continuing research on the expansion of its use for an even more significant number of diagnoses. Finally, Anguita (2015) brings the article full-circle by ending on a note of anticipation about even further research.

Comparison of microwave ablation, botulinum toxin injection, and liposuction-curettage in the treatment of axillary hyperhidrosis: A systematic review

In this research study, Nasr, Jabbour, Haber, Kechichian, & El Hachem (2017) compared and contrasted three methods of treatment for hyperhidrosis based on the criteria of efficiency, safety, effectiveness, and length of the results. The three treatment methods include microwave ablation, botulinum toxin injection, and liposuction-curettage. The authors of the article infer that these options are considered minimally invasive by all. Nasr et al. (2017) conclude that all three methods deem safe and efficient. They also found that microwave ablation and liposuction-curettage were longer lasting than botox injections, but that botox proved more effective than liposuction-curettage in the short term. Finally determining that further research needs collecting for comparison but that overall quality of life for hyperhidrosis patients improved with these methods of treatment.

Key Points

Nasr et al. (2017) reviewed 16 studies that met the criteria that the researchers were looking

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for regarding these three treatments. The authors described each of the three treatments in detail and reported that they were typically the second line of treatment, secondary to topical and oral medication failure. The data showed that there were no significant adverse effects of the procedures that participants reported with either of the three treatment methods. Quality of life was also a substantial component of the analysis. The emphasis placed on this consideration was a significant focus of the article. In another study by (Callus, Sciortino, & Higgans, 2016), this emphasis was also considered a component of successful treatment.

Assumptions

Assumptions that were made by the researchers of this study were that these treatment methods would be considered minimally invasive by patients. Botulinum toxin injections consist of 50 units of botox, diluted with saline, injected throughout the entire treatment area in a tight grid pattern. The treatment area would be the whole axillary area on each side. Some patients or the general audience may be hesitant to consider this method of treatment minimally invasive. This assumption could potentially over-simplify the treatment and negatively impact readers.

Deficit/Conclusion

The authors of this research article presented several conclusions, one being that Botulinum toxin is considered a safe and effective in the treatment of hyperhidrosis. Additionally, Nasr et al. (2017) discussed that this treatment is minimally invasive and cost-effective compared to other available therapies. Callus, Sciortino, & Higgans (2016) provide support for these conclusions as well as the emphasis on the improvement of quality of life that

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presents in the study. The implications that this study imposes on improving hyperhidrosis are bountiful, though each article states there is a need for further research on the topic.

Sustained onabotulinumtoxinA therapeutic benefits in patients with chronic migraine over 3 years of treatment

Vikelis et al. (2018) conducted a study of 65 participants who suffer from chronic migraine headaches. The research comprised participants who demonstrated the effectiveness of Botulinum toxin after the first three treatments. The authors conducted this study over three years to determine the long term effectiveness of this therapy. Factors considered when defining efficacy, determined by the authors, were the number of migraine days per month, the severity of migraines when occurring, and the need for the use of oral medication. Vikelis et al. (2018) concluded that long term efficacy was supported by the study.

Key Points

Main points of this study include that there is a gap in research regarding the long term efficacy of Botulinum toxin injections for migraine management. Vikelis et al. (2018) report that the study was broken up into trimesters, and the effectiveness, as defined above, was judged against each trimester. Results showed that of the 65 participants, 56 completed the full three years of treatments. Of the nine participants that dropped out of the study, five of these patients dropped out because their symptoms had improved so significantly that they did not feel a need for additional treatment. Within the remaining participants, they reported significant improvement in all three areas of effectiveness. The most notable increase occurred from first to third trimesters, but there was still improvement noted from the beginning to the second trimester

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and even more from the second to the third. Finally, the study emphasized the growth of the quality of life of the patients.

Assumptions

One assumption that Vikelis et al. (2018) made in their study was that their general audience would also consider four out of ten a severe migraine. This generalization could have limited the study by decreasing the applicability to suffers from chronic migraines with more severe pain. This implication of the study could deter patients who are seeking treatment for higher severity migraines. When researchers make this type of assumption, the external validity of the investigation becomes questionable.

Deficit/Conclusion

Conclusions made by Vikelis et al. (2018) include that Botulinum toxin is safe and has a minimal side-effect profile, as evidenced by this three-year study. Additionally, results from this study infer that participants saw improvement in the number of migraines per month, the severity of such migraines and need for supplemental medication to control such migraines. Patients noted significant progress, not only from the three months to the three-year mark but also a steady progression throughout the entire length of the study. Stark et al. (2019) also researched Botulinum toxin and found evidence of a reduction in the number of migraine days and severity of migraines in their trial patients. This progress, in turn, is implicated in improving the quality of life for the participants.

Conclusion

The word Botox was once only spoken in hushed tones at cosmetic spas or from one woman to another, only after she promised she wouldn't tell anyone. It was a taboo to have a

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cosmetic treatment and especially one that had the word toxin as part of the name. As research methods have improved over time, this taboo has become a major headline, and not just in cosmetic magazines, but in medical journals all over the world. Botox is now providing a treatment option for migraine patients who previously felt hopeless (Vikelis et al., 2018). It has also given the freedom of wearing a grey shirt without the worry of sweating through it to hyperhidrosis sufferers. This product has transformed the lives of patients by providing the opportunity of improved quality of life through its use (Callus, Sciortino, & Higgans, 2016). Botox has become one of the most studied medications on the market and now has over 20 different treatment applications (Anguita, 2015). Further research could continue to support the conclusion that Botox is more than just a treatment for wrinkles.

References

- Anguita, M. (2015). Botox: The new ‘wonder drug’? *Nurse Prescribing*, 13(1), 6–8. Retrieved from <http://ezproxy.lakeviewcol.edu:2059/login.aspx?direct=true&db=ccm&AN=103867201&site=ehost-live>
- Callus, L., Sciortino, P., & Higgans, J. S. (2016). The use of Botulinum Toxin for focal hyperhidrosis - life changing and not only cosmetic. *Malta Medical Journal*, 28(4), 27–35. Retrieved from <http://ezproxy.lakeviewcol.edu:2059/login.aspx?direct=true&db=a9h&AN=120614693&site=ehost-live>
- Nasr, M. W., Jabbour, S. F., Haber, R. N., Kechichian, E. G., & El Hachem, L. (2017).

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Comparison of microwave ablation, botulinum toxin injection, and liposuction-curettage in the treatment of axillary hyperhidrosis: A systematic review. *Journal Of Cosmetic And Laser Therapy: Official Publication Of The European Society For Laser Dermatology*, 19(1), 36–42. <https://ezproxy.lakeviewcol.edu:2097/10.1080/14764172.2016.1248438>

Stark, C., Stark, R., Limberg, N., Rodrigues, J., Cordato, D., Schwartz, R., & Jukic, R. (2019).

Real-world effectiveness of onabotulinumtoxinA treatment for the prevention of headaches in adults with chronic migraine in Australia: a retrospective study. *The Journal Of Headache And Pain*, 20(1), 81.

<https://ezproxy.lakeviewcol.edu:2097/10.1186/s10194-019-1030-z>

Vikelis, M., Argyriou, A. A., Dermitzakis, E. V., Spingos, K. C., Makris, N., & Kararizou, E. (2018). Sustained onabotulinumtoxinA therapeutic benefits in patients with chronic migraine over 3 years of treatment. *Journal of Headache & Pain*, 19(1), 1.

<https://ezproxy.lakeviewcol.edu:2097/10.1186/s10194-018-0918-3>