Pamela Wilfong

For Dr. Penny Bernstein’s Human Biology course (BSCI 10001), Pamela Wilfong researched a scientific topic of choice, with respect to the local community, and concluded with a personal opinion on the subject. Wilfong’s paper focuses on Botox, “a new medication for eliminating wrinkles.” Wilfong’s research concludes that not enough is known about “the long term use and the long term side effects of the toxin, despite the fact that Botox has been approved by The Food and Drug Administration and is being used for a variety of medical conditions.”

Botox: The Pretty Poison

Everyday, as I go through the morning ritual of applying my make-up, the visible signs of aging are becoming more apparent. I see skin that is starting to sag and everyday, I swear, a new wrinkle appears. Of the many things I can find fault with on my aging face, the most bothersome are the deep creases between my eyebrows. For this reason, five months ago, I decided to check out my options for obliterating these deep valleys on my forehead. After calling several cosmetic surgeons in the Akron/Canton area, I learned I had only three options: brow lift (a major surgical procedure), laser skin resurfacing, or collagen replacement therapy. I wanted a less invasive treatment that had little or no recovery time, so I opted for the collagen.

Meanwhile, as I was watching television one evening, I learned of a new medical treatment for eliminating wrinkles called Botox; so, when I went for my collagen injections I asked my doctor about this new treatment. At that particular time, Dr. Pennington did not do the procedure, which involves injecting Botox into forehead wrinkles; however, he said he was going to learn to do the procedure, and would be offering it in about three months (which was just about the length of time my collagen would last). He suggested that I call him in October if I was interested. Fortunately the timing, and my desire for more information about Botox, coincided with this assignment. Ultimately, my research would determine whether or not I would actually have the Botox injections; therefore, I began my investigation with a list of important questions such as, what is Botox, what effect does it have on frown
lines, how long does it last, and is it safe. In addition, considering it is a relatively new procedure, I wanted to know if there were other doctors in the local area who were performing this procedure and, most importantly, the price I would have to pay to undo my furrowed brow.

Through my research I found that Botox, the trade name for Botulinum Toxin type A, is a "neuromuscular junction blocking agent produced by the bacterium Clostridium Botulinum" ("Botulinum Toxin"). In other words, Botox is derived from the same poisonous bacterium which causes botulism - a deadly food poisoning. The Botox works "by blocking the release of the neurotransmitter acetylcholine, which results in muscle weakness. It does not alter the muscle or the nerve, but prevents the relay of information between the two" ("Botulinum Toxin"). Therefore, Botox is beneficial in the treatment of wrinkles and frown lines because it causes specific muscles to relax, which in turn lessens the lines of facial expressions. Because Botox relaxes specific muscles, it is also used to treat a variety of medical conditions dealing with muscle spasms.

Botox was first used in the 1980s to treat muscular problems with the eyes, such as uncontrolled blinking and squinting, lazy eyes and crossed eyes (Health Beat). Botox has also been used to stop excess sweating by injecting the toxin into the sweat ducts in the skin (Channel 2000). However, in 1989, Dr. Carruthers of Vancouver pioneered the use of Botox for forehead wrinkles (Sparks). Thus began the craze of aging females, like myself, eager to eradicate prominent creases by using Botox. Today, doctors are using Botox not only as a treatment to eliminate forehead frown lines, but also to erase crow's feet (the tiny lines that appear around the eyes). Specifically, Botox is injected into the corrugator muscle between the eyebrows. The Botox relaxes the muscle and inhibits the ability to draw the eyebrows together when frowning. Once the muscle has been injected the frown line gradually fades away - generally within two to five days (Sparks). To eliminate squint lines, Botox is injected into the muscles beside the eyes. This procedure is very simple, takes only a few minutes, is painless, and appears to be a great alternative to surgery, but it is not a cure.

The effects of Botox injections are not permanent, therefore the injections must become an on-going treatment process. In general, the effects last three months and injections can be repeated every three to six months; however, some patients require less frequent treatments because they break the habit of contracting the frown muscle (The Skin Site). So far this procedure sounds great. It's quick and easy, and the results are immediate, but how safe is it and are there side effects?
Botox is approved by the Food and Drug Administration and the American Academy of Neurology and the National Institutes of Health report Botox to be safe ("Botulinum Toxin"). Although botulism poisoning can be deadly, the dosage of botulinum toxin used for medical treatment is much smaller than the amount that causes botulism. A lethal amount of botulinum toxin is approximately 2,700 unites, however only about 20 to 25 units of toxin (in a purified form) are used for most treatments (Health Beat). Even though this is a very minute amount of toxin, there can be occasional side effects. One side effect is that one out of every ten patients develops a small bruise or hematoma at the injection site, which takes several weeks to resolve. Another effect is a rare drooping of the eyebrow or eyelid, which can last three to six months, but is always reversible. Extremely rare is double vision, which can last three to six months and is also always reversible (The Skin Site). However, because this is a relatively new treatment, any long term effects have not yet been discovered. With all these facts in mind, I now needed to know where I could receive this treatment locally, and how much I was going to have to spend to look revitalized.

The first call I made was to the doctor who had given me the collagen injections. After several phone calls to Dr. Pennington’s office and several unanswered voice mail messages, my persistence paid off only to find that he was not yet performing the procedure. So through the yellow pages of the phone book I went (Appendix A). At first, I called only cosmetic surgeons in the Akron/Canton area. When I could not find a cosmetic surgeon who did the Botox injections, I began calling local dermatologists. Once again, I found no one who did the procedure. At this point, I began calling the Cleveland area, and at long last I found a doctor skilled in the procedure. Dr. Sheldon Artz of Mayfield Heights was the only doctor I found who does the Botox injections.

I spoke with Dr. Artz’s nurse, Kate Micco, who was extremely helpful answering all my questions. Kate apprised me that Dr. Artz has been giving Botox injections for about two years. She was very surprised I had not been able to find anyone locally who performed the procedure considering the fact that it has become very popular. In fact, Dr. Artz actually has a “Botox day” once a month! Patients wanting the Botox injections are scheduled on the same day. Kate said the reason for this is because once the botulinum toxin is diluted into its purified form it is not as effective after four hours. Rather than mixing the toxin each time a patient needs an injection, it is processed and used within the four hour period. On average, Dr. Artz treats six patients a month; however, according to Kate, there has been an increasing number
of inquiries about the injections. She told me that with the Christmas holiday coming up, people want to look their best, so Dr. Artz may need two days to take care of the Botox requests.

As the interview continued, I asked Kate where Dr. Artz learned to do the procedure. She informed me that he learned through reading articles and trials by other doctors, as well as through seminars and meetings in which techniques are discussed on how to achieve the best results. Wanting to know about side effects I said to Kate, “I assume that since he has been doing the procedure for two years, and has had enough patients requesting it, that he is well informed and can perform the procedure without incident.” According to Kate, thus far there have been no complaints of side effects. I then asked the big question, “How much money am I going to spend?”

Kate told me the cost for Botox injections varies. In general, the procedure runs five to six hundred dollars; however, costs vary depending on whether or not it is in conjunction with other procedures. Many patients choose to have surgical procedures, and then have the Botox treatment to help maintain their new youthful appearance. Also, Botox is often used along with chemical peels. She told me that because a Botox treatment is considered a cosmetic procedure, it is not covered by insurance. Regardless of this fact, many people are willing to spend the money, perhaps because it is the least invasive, and the results are almost immediate. Kate believes the popularity of this procedure is due to the fact that there is no recovery period. She informed me, “This is a procedure that can be done during a person’s lunch hour, unlike surgery or laser resurfacing, which require at least a two week recovery.”

With all the facts in mind, I have decided against having the Botox injections - at least for the time being. I have concerns about the long term use and the long term side effects of the toxin, despite the fact that Botox has been approved by The Food and Drug Administration and is being used for a variety of medical conditions. I have major concerns with the fact that botulism, which affects the central nervous system and interrupts nerve impulses, ultimately can cause difficulty in swallowing, walking, impair vision and speech, convulsions, paralysis of the respiratory muscles, suffocation, and death (“Botulism”). Knowing all of this, I have to ask myself if I really want the same toxin which causes botulism poisoning injected into my body, no matter how minute the amount is. Furthermore, because Botox is made up of a deadly bacteria, it seems to me that the body's response would be to fight it. For this reason, I wonder what the long term effect might be on the immune system after long term injections, as well as other previously
mentioned physiological effects. These are questions that cannot be answered yet, for there have been no long term studies done on Botox. Also, I am concerned with the fact that there are very few doctors in the local area who perform this procedure. Why not? Is it because they are also concerned with the long term effects? I do know that if I were going to have the injections, I would have it done by a doctor who is experienced in the procedure and not by someone who was just learning. As far as the cost, five hundred dollars does not seem to be excessive in comparison to other cosmetic procedures; however, this is a recurring cost every three to six months. So what price does my vanity have on it? I've been known to be extravagant now and again, but if the price I will eventually have to pay is with my health - then this "pretty poison" is too expensive.

Appendix A: Local Doctors Researched
Lewis M.D., James M., Akron
Pennington M.D., Gary A., Akron
Plastic and Reconstructive Surgeons Inc., Akron
Plastic Surgery Associates Inc., Solon
Sandel M.D., Allan J., Akron
Shin M.D., Shin, Akron
Staus M.D., Mary E., North Canton
Thottan M.D., John J., Canton
Wikas M.D., Schield M., North Canton

Works Cited


Micco, Kate. Telephone Interview. 15 November 1998. Sparks M.D., Maggie.
