Discussion

The Role of Botulinum Toxin Type B (Myobloc) in the Treatment of Hyperkinetic Facial Lines

Discussion by Rod J. Rohrich, M.D., and Jeffrey E. Janis, M.D.

There has been much attention devoted to botulinum toxin, both before and after its approval by the U.S. Food and Drug Administration in April of 2002. Most of the attention has been devoted to the "A" serotype, otherwise known as Botox (Allergan, Irvine, Calif.). However, another serotype, type B, or Myobloc (Elan Pharmaceuticals, South San Francisco, Calif.), is also in use. Dr. Kim and his colleagues have presented their experience with Myobloc in this article, and should be commended on their efforts.

At first glance, the conclusions of this study demonstrate that Myobloc costs more, causes a higher degree of pain intensity on injection, lasts only two thirds as long, and causes more autonomic side effects at higher doses (the same higher doses required to increase the duration of its effect). Why, then, would anyone use this serotype over type A? The authors present a case for the potential indications for type B and, as with any marketable product, attempt to demonstrate its niche.

Our limited experience with Myobloc (especially as compared with our use of Botox) has enabled us to draw some conclusions similar to those of Dr. Kim and his associates. We have seen a quicker onset of action and have seen Myobloc work in some patients who have been recalcitrant to the action of Botox. In this particular setting, we have found use for Myobloc. As Dr. Kim and colleagues have elucidated for us, Botox and Myobloc have different specific sites of action within the presynaptic neuron. This explains their different levels of effectiveness and their different side-effect profiles. However, just as combinations of drugs can prove more effective than single therapy in some circumstances (e.g., synergistic antibiotic coverage, human immunodeficiency virus antiviral "cocktails"), so can the combination of type A and type B botulinum toxin show synergistic effects. One may work more effectively in a particular patient than the other, and in our limited experience, the combination of both types may be the optimal treatment regimen in certain select patients. To overlook this fact is to doom some patients to suboptimal results or even to outright treatment failure. Part of being a knowledgeable physician is to be facile with different modes of treatment for the same problem. Myobloc should be part of the treatment armamentarium to efface hyperkinetic facial rhytides, although it plays a very limited and specific role.

Our experience, however, does not support a wider use for Myobloc beyond what has already been mentioned above, and the results of this study certainly support this. First of all, the amount of Myobloc needed to achieve the same level of chemodenervation (and longevity of effect) far exceeds the amount of Botox needed. This fact, combined with the already significantly higher price per vial of Myobloc, effectively precludes its widespread use based on cost alone.

The higher side-effect profile at these higher dosages adds to the case against its routine use. The autonomic side effects (dry eyes and mouth) persist through the 8-week follow-up period and are dose dependent, which (as stated in the article) prevents additional escalation of doses in an effort to maximize the longevity of effect. Furthermore, this study attempts to quantify the amount of discomfort

Received for publication April 2, 2003.

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DOI: 10.1097/01.PRS.0000082198.10443.9C

with injection of Myobloc, but it compares apples and oranges when it quantifies pain intensity of an injection of Myobloc with *the memory of* the last injection with Botox. Although we agree with the general findings that Myobloc causes more discomfort, this study's attempt to quantify this falls short.

Another drawback of Myobloc, which, in fact, is mentioned by Dr. Kim and colleagues as an *advantage*, is that Myobloc has a "spread" or diffusion effect. This is counterintuitive, because precision and accuracy of injection are the cornerstones of treatment with botulinum toxin. The objective is to precisely locate the muscle to be chemodenervated and to do so with as little unwanted diffusion as possible to prevent potential comorbidity. Many muscles of facial expression lie adjacent to hyperkinetic muscles causing dynamic rhytides (e.g., the proximity of the zygomaticus major to the lateral orbicularis oculi). Spread of toxin is *not* advantageous, and the suggestion of this in this particular article must be discouraged.

Ultimately, this product appears to be generally inferior to Botox in most respects. Its use in the treatment of hyperkinetic facial lines is discrete, specific, and limited. However, it does play a role. The authors are to be congratulated on their experience with Myobloc, and for their study findings that support its niche.

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